



NVLAP LAB CODE 200707-0



ETSI ES 203 021-1 V2.1.1 (2005-08)  
ETSI ES 203 021-2 V2.1.2 (2006-01)  
ETSI ES 203 021-3 V2.1.2 (2006-01)

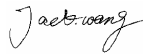

## MEASUREMENT AND TEST REPORT

For

**Xingtel Xiamen Electronics Co., Ltd.**

Xingtel Building, Chuangxin Rd, Torch Hi-tech Ind. District Xiamen 361006, PR China

**Model: XL-2029IDM; TK4060**

|  |  |
|--|--|
| <b>Report Type:</b><br>Original Report | <b>Product Type:</b><br>Corded Phone   |
| <b>Test Engineer:</b>                  | Jack Wang   |
| <b>Report Number:</b>                  | RSZ09112302  |
| <b>Report Date:</b>                    | 2009-12-16   |
| <b>Reviewed By:</b>                    | Lisa Zhu<br>EMC Engineer    |
| <b>Prepared By:</b>                    | Bay Area Compliance Laboratories Corp. (Shenzhen)<br>6/F, the 3rd Phase of WanLi Industrial Building,<br>ShiHua Road, FuTian Free Trade Zone<br>Shenzhen, Guangdong, China<br>Tel: +86-755-33320018<br>Fax: +86-755-33320008 |

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\* This report may contain data that are not covered by the NVLAP accreditation and are marked with an asterisk " \*" (Rev.2)

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**TBR21 REQUIRMENTS****Compliance Test Report**

**Test Specification:** ETSI ES 203 021-1 V2.1.1 (2005-08)  
ETSI ES 203 021-2 V2.1.2 (2006-01)  
ETSI ES 203 021-3 V2.1.2 (2006-01)

**Description:** Access and Terminals (AT);  
Harmonized basic attachment requirements for Terminals for  
connection to analogue interfaces of the Telephone Networks;  
Update of the technical contents of  
TBR 021, EN 301 437, TBR 015, TBR 017;  
Part 1: General aspects  
Part 2: Basic transmission and protection of the network from harm  
Part 3: Basic Interworking with the Public Telephone Networks

|                             |                                      |
|-----------------------------|--------------------------------------|
| <b>Report/Job Number</b>    | 1000281                              |
| <b>Job Reference</b>        | RSZ09112302                          |
| <b>Customer</b>             | Xingtel Xiamen Electronics Co., Ltd. |
| <b>Product</b>              | Corded Phone                         |
| <b>M/N:</b>                 | XL-2029IDM; TK4060                   |
|                             |                                      |
| <b>Report Prepared By</b>   | Jack Wang                            |
| <b>Position</b>             | Test Engineer                        |
| <b>Date Prepared</b>        | 2009-12-14                           |
|                             |                                      |
| <b>Report Authorised By</b> | Lisa Zhu                             |
| <b>Position</b>             | EMC Manager                          |
| <b>Date Authorised</b>      | 2009-12-16                           |

Total Number of Pages in this report (including this page): 115

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## 1. – LABORATORY DETAILS

|                               |   |
|-------------------------------|---|
| <b>Laboratory Name:</b>       | Bay Area Compliance Laboratories Corp. (BACL)   |
| <b>Laboratory Address:</b>    | 1274 Anvilwood Avenue, Sunnyvale, CA 94089, USA |
| <b>Laboratory Telephone :</b> | 408-732 9162                                    |
| <b>Laboratory Fax:</b>        | 408-732 9164                                    |
| <b>Laboratory E-mail:</b>     | johnc@baclcorp.com                              |
| <b>Laboratory Website:</b>    | www.baclcorp.com                                |
| <b>Contact Name:</b>          | John Chan                                       |

## 2. – CUSTOMER DETAILS

|                            |   |
|----------------------------|---|
| <b>Customer Name:</b>      | Xingtel Xiamen Electronics Co., Ltd.  |
| <b>Customer Address:</b>   | Xingtel Building, Chuangxin Rd, Torch Hi-tech Ind. District Xiamen 361006, PR China |
| <b>Customer Telephone:</b> | Simon Liu   |
| <b>Customer Fax:</b>       | +86-592-5625929/ +86-592-6036442  |
| <b>Contact Name</b>        | +86-592-6037860   |

|                           |   |
|---------------------------|---|
| <b>Manufacturer Name:</b> | Xingtel Xiamen Electronics Co., Ltd.  |
| <b>Customer Address:</b>  | Xingtel Building, Chuangxin Rd, Torch Hi-tech Ind. District Xiamen 361006, PR China |

|               |
|---------------|
| <b>Notes:</b> |
|               |

## 3. – EQUIPMENT UNDER TEST

|                       |              |
|-----------------------|--------------|
| <b>Product Type:</b>  | Corded Phone |
| <b>Product Model:</b> | XL-2029IDM   |

\*Note: The serial product model *XL-2029IDM*; *TK4060*. We select *XL-2029IDM* to test, and both of the models are electrically identical, their difference are only the trade mane and model names, which was explained in the attached declaration letter.

### Samples Submitted for Test

| Sample Number | Sample Ref. | Date Logged | Description  | Model Number       | Serial Number | Category |
|---------------|-------------|-------------|--------------|--------------------|---------------|----------|
| 1             | RSZ09112302 | 14/12/2009  | Corded phone | XL-2029IDM; TK4060 | /             | EUT      |

**Modifications for Sample Number: 1**

| Modification Number | Modification Description | Reason for Modification | Modification Date |
|---------------------|--------------------------|-------------------------|-------------------|
| 0                   | As Submitted             | /                       | /                 |

**4. – ENVIRONMENTAL DATA**

All measurements were made within the climatic conditions specified in ETSI ES 203 021-1 V2.1.1 (2005-08), ETSI ES 203 021-2 V2.1.2 (2006-01), and ETSI ES 203 021-3 V2.1.2 (2006-01).

**5. – TEST EQUIPMENT UTILISED**

System Type: PSTN21, Product Code: PRD010, Revision Number: 1.0, Serial Number: 0016.

**6. – MEASUREMENT UNCERTAINTY**

The test equipment utilized is maintained and calibrated to ensure that measurement uncertainties fall within the limits specified in ADLNB document GN/WG2/1 "Guidance Notes On Measurement Uncertainty" dated 19 March 1998.

**7. – TEST REPORT SUMMARY**

A summary of the test status of the product under test with respect to each test requirement of the standard is provided in section 9 on page 8 and page 9 of this report.

Detailed test results are presented in section 10 following page 10 of this report.

## 8. – CONDITIONS TABLE

### ETSI ES 203 021-1 V2.1.1 (2005-08)

| The EUT has been declared to support the following features. |  |                  |
|--|--|------------------|
| Reference  | Condition  | Supported By EUT |
| C.1.   | Is the TE intended for use on the PSTN?                            | Yes              |
| C.2.   | Is the TE intended for 2-wire analogue leased lines (A2O and A2S)? | No               |
| C.3.   | Is the TE intended for 4-wire analogue leased lines (A4O and A4S)? | No               |

### ETSI ES 203 021-2 V2.1.2 (2006-01)

| The EUT has been declared to support the following features. |   |                  |
|--|---|------------------|
| Reference  | Condition   | Supported By EUT |
| C.1.   | Is the TE intended for 2-wire analogue leased lines?                                      | Yes              |
| C.2.   | Is the TE intended for 4-wire analogue leased lines?                                      | No               |
| C.3.   | Is the TE intended the connection to the PSTN?  | Yes              |
| C.4.   | Is the TE intended to have a connection to earth?   | No               |
| C.5.   | Is the TE intended to be in loop state?   | Yes              |
| C.6.   | Is the TE intended for call answer?   | Yes              |
| C.7.   | Is the TE intended for call set-up?   | Yes              |
| C.8.   | Is the TE intended for dialing with DTMF?   | Yes              |
| C.9.   | Is the TE intended for automatic dialing with dial tone detection?                        | No               |
| C.10.  | Is the TE intended for use in receiving mode?   | Yes              |
| C.11.  | Is the TE intended for use in transmitting mode?  | Yes              |
| C.12.  | Is the TE only intended to function on lines that provide more than 18mA of line current? | Yes              |
| C.13.  | Is the TE intended for making internally generated automatically repeated call attempts?  | No               |

**ETSI ES 203 021-3 V2.1.2 (2006-01)**

| The EUT has been declared to support the following features. |  |                  |
|--|--|------------------|
| Reference  | Condition  | Supported By EUT |
| C.1.   | Is the TE intended to interwork on a low voltage line?                                     | Yes              |
| C.2.   | Is the TE intended to have a connection to earth?  | No               |
| C.3.   | Is the TE intended to be in the loop state?  | Yes              |
| C.4.   | Is the TE intended for call answer?  | Yes              |
| C.5.   | Is the TE intended for call set-up?  | Yes              |
| C.6.   | Is the TE intended for dialling with DTMF?   | Yes              |
| C.7.   | Is the TE intended for automatic dialling without dial tone detection?                     | No               |
| C.8.   | Is the TE intended for automatic dialling with dial tone detection?                        | No               |
| C.9.   | Is the TE intended for automatic controlled signaling tone duration?                       | Yes              |
| C.10.  | Is the TE intended for automatic controlled signaling pause duration?                      | Yes              |
| C.11.  | Is the TE only intended to function on lines that provide more than 18 mA of line current? | Yes              |
| C.12.  | Is the TE intended for Pulse Dialling?   | Yes              |
| C.13.  | Is the TE intended for Register Recall?  | Yes              |
| C14  | Is the TE able to go off-hook during a ringing pulse?                                      | Yes              |

## 9. – TEST RECORD

### ETSI ES 203 021-1 V2.1.1 (2005-08)

| Clause          | Clause Title  | Test Status  |
|-----------------|---|--------------|
| Clause 4.2.1    | 6-contact plug (or socket) as specified in TIA/EIA/IS-968 [1] | Pass         |
| Clause 4.2.2(a) | 8-contact plug as specified in ISO/IEC 8877 [3]               | Not Required |
| Clause 4.2.2(b) | Contacts for termination of solid wire conductors             | Not Required |
| Clause 4.2.2(c) | Unterminated solid wire conductors                            | Not Required |
| Clause 4.2.3(a) | 8-contact plug as specified in ISO/IEC 8877 [3]               | Not Required |
| Clause 4.2.3(b) | Contacts for termination of solid wire conductors             | Not Required |
| Clause 4.2.3(c) | Unterminated solid wire conductors                            | Not Required |

### ETSI ES 203 021-2 V2.1.2 (2006-01)

| Clause         | Clause Title   | Test Status  |
|----------------|--|--------------|
| Clause 4.1.1   | Impedance Unbalance About Earth In The Quiescent State | Not Required |
| Clause 4.1.2.1 | Longitudinal Conversion Loss In The Loop State         | Not Required |
| Clause 4.1.2.2 | Output Signal Balance                                  | Not Required |
| Clause 4.2.1   | Mean Sending Level                                     | Pass         |
| Clause 4.2.2   | Instantaneous Voltage                                  | Pass         |
| Clause 4.2.3   | Sending Level In A 10Hz Bandwidth                      | Not Required |
| Clause 4.2.4   | Sending Levels Between 4.3kHz and 200kHz               | Pass         |
| Clause 4.2.5   | Sending Level From 200kHz to 30MHz                     | Pass         |
| Clause 4.3     | Power feeding limitations                              | Pass         |
| Clause 4.4     | Automatically Repeated Call Attempts                   | Not Required |



**ETSI ES 203 021-3 V2.1.2 (2006-01)**

| <b>Clause</b>    | <b>Clause Title</b>                                    | <b>Test Status</b> |
|------------------|--|--------------------|
| Clause 4.3       | Polarity   | Pass               |
| Clause 4.4.1     | DC Resistance  | Pass               |
| Clause 4.4.2.1   | Impedance  | Pass               |
| Clause 4.4.2.2   | Transient Response                                     | Pass               |
| Clause 4.4.2.3   | DC Current   | Pass               |
| Clause 4.4.3     | Resistance To Earth                                    | Not Required       |
| Clause 4.4.4     | Impedance  | Pass               |
| Clause 4.5       | Ringling Signal Detector Sensitivity                   | Pass               |
| Clause 4.6.1     | Acceptance Of Breaks In The Loop In A Call Attempt     | Pass               |
| Clause 4.6.2     | Loop Current Characteristics                           | Pass               |
| Clause 4.6.3     | On-hook to off-hook transition with ringing without DC | Pass               |
| Clause 4.6.4     | Ring Trip  | Pass               |
| Clause 4.7.1     | DC Characteristics                                     | Pass               |
| Clause 4.7.2     | Impedance  | Pass               |
| Clause 4.7.3     | Resistance To Earth                                    | Pass               |
| Clause 4.8.1.1   | Dialling Without Dial Tone Detection                   | Not Required       |
| Clause 4.8.1.2   | Dialling With Dial Tone Detection                      | Not Required       |
| Clause 4.8.2.1   | Frequency combinations                                 | Pass               |
| Clause 4.8.2.2.1 | Absolute levels  | Pass               |
| Clause 4.8.2.2.2 | Level difference                                       | Pass               |
| Clause 4.8.2.3   | Unwanted Frequency Components                          | Pass               |
| Clause 4.8.2.4   | Tone Duration  | Pass               |
| Clause 4.8.2.5   | Pause Duration   | Pass               |
| Clause 4.8.3     | Pulse dialling   | Pass               |
| Clause 4.8.4     | Register recall  | Pass               |
| Clause 4.8.5     | Call attempt on a low voltage line                     | Pass               |
| Clause 4.9       | Transition From Loop To Quiescent State                | Pass               |

## 10. – DETAILED TEST RESULTS

| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)  |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
|--|---|----------|---------|--------------|----|----------------|--------------------|---|-------------|---|-------------|-----|-----|---|-------------|---|-------------|
| <b>Clause 4.2, Physical Characteristics Of The Connection To The PSTN</b>  |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| ID   | 4291  | Job No   | 1000281 |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Customer   | Xingtel Xiamen Electronics Co.,Ltd  |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Product  | XL-2029IDM;TK4060   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Specification  | ETSI ES 203 021-1 v2.1.1 August 2005  |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Purpose Of Test  | To check that single line EUT shall provide a connector either as a plug or socket compatible with FCC 47 CFR 68.500 clause (a) or clause (b) |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| EUT Details  | Sample Number: 0001, Modification State: 00   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Operating State  |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Test Class   |   | Engineer | Jack    |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Date & Time  | Wed<br>09/Dec/2009<br>16:31:46  | Temp ( ) | 25      | Humidity (%) | 56 |                |                    |   |             |   |             |     |     |   |             |   |             |
| Tested With Auto Test Run (EUT Master): No   |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| <b>Test Result</b>   |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| <b>Overall Test Status: Pass</b>   |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| <u>Test Condition:</u>   |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| <b>Physical Characteristics Of The Connection To The PSTN</b>  |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| The EUT shall provide a connector either as a plug or as a socket. The connector, if a plug, shall be capable of connecting with the miniature 6-position socket as specified in FCC 47. CFR 68.500 [1] clause (b) and if a socket, shall be capable of connecting with a miniature 6-position plug as specified in FCC 47.CFR 68.500[1] clause (a). |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| This connector is often referred to as RJ11/12   |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| The contact assignments for the connector shall be as follows:   |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| <table border="1"> <thead> <tr> <th>Contact Number</th> <th>Contact Assignment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Unspecified</td> </tr> <tr> <td>2</td> <td>Unspecified</td> </tr> <tr> <td>3/4</td> <td>TCP</td> </tr> <tr> <td>5</td> <td>Unspecified</td> </tr> <tr> <td>6</td> <td>Unspecified</td> </tr> </tbody> </table>        |   |          |         |              |    | Contact Number | Contact Assignment | 1 | Unspecified | 2 | Unspecified | 3/4 | TCP | 5 | Unspecified | 6 | Unspecified |
| Contact Number   | Contact Assignment  |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| 1  | Unspecified   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| 2  | Unspecified   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| 3/4  | TCP   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| 5  | Unspecified   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| 6  | Unspecified   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Check by visual inspection that the EUT is supplied with a connection as described above. If satisfied, click the status button below to indicate "Pass", if not click button to indicate "Fail"   |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| <u>Status</u>  |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| <b>Pass</b>  |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |
| Note: Above requirement applies only to "Single Line" EUT. For Multi-Line EUT, alternative connection arrangements are allowed. For Multi-line equipment, click status box to indicate "Pass"  |   |          |         |              |    |                |                    |   |             |   |             |     |     |   |             |   |             |

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.1, Mean Sending Level**

|                 |  |  |         |              |    |
|-----------------|--|--|---------|--------------|----|
| ID              | 4292   | Job No                                     | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |  |         |              |    |
| Product         | XL-2029IDM;TK4060  |  |         |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006  |  |         |              |    |
| Purpose Of Test | To check that the mean sending level in the frequency range 200Hz to 3800Hz over a one minute period shall not be greater than -9.7dBV when the EUT interface is terminated with the reference impedance ZR. |  |         |              |    |
|                 |  |  |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |  |         |              |    |
| Operating State | Off Hook (on line) quiet, Test Condition 1: Clause 4.2.1: Feed Resistance 2300Ohms, Normal Polarity  |  |         |              |    |
| Test Class      | Formal Test  | Engineer                                   | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:59:39   | Temp ( )                                   | 25      | Humidity (%) | 45 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |              |    |
|                 |  |  |         |              |    |
| Test Result     |  |  |         |              |    |

**Overall Test Status: Pass****Test Condition 1, Clause 4.2.1 : Feed Resistance 2300Ohms, Normal Polarity**

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.3 Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

Total Power In Band Measurements Units: dBV, with reference to 1 Vrms

RMS Integration Time Used For Measurements: 100ms

Mean Power Level measured in the band: 200 Hz, To 3.8k Hz, With A Flat Weighting

Measured Over A Period Of 60 Secs

Measured Mean Power Level Must Be &lt;= -9.7 dB

**Measured Mean Power: -35.7 dB**Measured Mean Power Status Against Upper Limit: Pass**Test Condition Status: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.1, Mean Sending Level**

|                 |  |          |         |              |    |
|-----------------|--|----------|---------|--------------|----|
| ID              | 4223   | Job No   | 1000273 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |          |         |              |    |
| Product         | XL-2029IDM;TK4060  |          |         |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006  |          |         |              |    |
| Purpose Of Test | To check that the mean sending level in the frequency range 200Hz to 3800Hz over a one minute period shall not be greater than -9.7dBV when the EUT interface is terminated with the reference impedance ZR. |          |         |              |    |
|                 |  |          |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |          |         |              |    |
| Operating State | Off Hook (on line) quiet, Test Condition 1: Clause 4.2.1: Feed Resistance 2300Ohms, Normal Polarity  |          |         |              |    |
| Test Class      | Formal Test  | Engineer | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:59:39   | Temp ( ) | 25      | Humidity (%) | 45 |

**Test Details**

## TestCondition 1

Test Description: Clause 4.7.3.1: Feed Resistance 2300 Ohms, Normal Polarity  
DC Feed Voltage: 50 Vdc  
DC Feed Current: 100m A  
Set DC Line Current: 0 (0 = do not set, 1 = set)  
Feed Resistance: 2.3 Ohms  
Set Feed Resistance: 1 (0 = Do Not Set, 1 = Set)  
Feed Circuit Polarity: Normal Polarity  
Feed Circuit Inductance Per Leg: 10H  
Feedbridge DC Blocking Capacitance Per Leg: 500u F  
During Test EUT Is Off Hook  
EUT Is Off Hook When DC Line Current Exceeds: 5m A  
Termination Impedance Rs: 270 Ohms  
Termination Impedance Rp: 750 Ohms  
Termination Impedance Cp: 0.15u F  
External Analyser Connection Enabled During Test: 0 (0 = disabled, 1 = enabled)  
rms measurements integrated over period of: 100ms  
Total Power Measurement Units: dBV  
Total Power Reference Voltage Level for dBV measurements: 1 Vrms  
Total Power Reference termination for dBm measurements: 600 Ohms  
Conduct Mean Total Power Measurement: 1 (0 = Do Not Test, 1 = Test)  
Total Mean Power Level Minimum Frequency: 200 Hz  
Total Mean Power Level Maximum Frequency 3.8k Hz  
Total Mean Power Averaged Over A Total Period Of: 60 Secs  
Weighting Curve To Apply To Total Mean Power Measurements: Flat  
Apply Total Mean Power Level Lower Test Limit: 0 (0 = Do Not Apply, 1 = Evaluate)  
Measured Total Mean Power Must be <= -9.7 dB  
Apply Total Mean Power Level Upper Test Limit: 1 (0 = Do Not Apply, 1 = Evaluate)  
For Spectral Density Test Lower Limits, Please see test results  
For Spectral Density Test Upper limits, Please see test results  
Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
Measured Mean Power Level: 0.18 dB  
Measured Max Power Level: N/A dB  
Measured Instantaneous Voltage: N/A %  
Measured Power Spectrum Within 20% Of Maximum Upper Limits Value: N/A dB  
Measured Power Spectrum Within 20% Of Minimum Upper Limits Value: N/A dB

|   |  |                 |         |                     |    |  |  |  |
|---|--|-----------------|---------|---------------------|----|--|--|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |                 |         |                     |    |  |  |  |
| <b>Clause 4.2.1, Mean Sending Level</b>                             |  |                 |         |                     |    |  |  |  |
| <b>ID</b>   | 4223   | <b>Job No</b>   | 1000273 |                     |    |  |  |  |
| <b>Customer</b>   | Xingtel Xiamen Electronics Co.,Ltd   |                 |         |                     |    |  |  |  |
| <b>Product</b>  | XL-2029IDM;TK4060  |                 |         |                     |    |  |  |  |
| <b>Specification</b>  | ETSI ES 203 021-2 v2.1.2 January 2006  |                 |         |                     |    |  |  |  |
| <b>Purpose Of Test</b>  | To check that the mean sending level in the frequency range 200Hz to 3800Hz over a one minute period shall not be greater than -9.7dBV when the EUT interface is terminated with the reference impedance ZR. |                 |         |                     |    |  |  |  |
|   |  |                 |         |                     |    |  |  |  |
| <b>EUT Details</b>  | Sample Number: 0001, Modification State: 00  |                 |         |                     |    |  |  |  |
| <b>Operating State</b>  | Off Hook (on line) quiet, Test Condition 1: Clause 4.2.1: Feed Resistance 2300Ohms, Normal Polarity  |                 |         |                     |    |  |  |  |
| <b>Test Class</b>   | Formal Test  | <b>Engineer</b> | Jack    |                     |    |  |  |  |
| <b>Date &amp; Time</b>  | Wed<br>09/Dec/2009<br>15:59:39   | <b>Temp ( )</b> | 25      | <b>Humidity (%)</b> | 45 |  |  |  |
|   |  |                 |         |                     |    |  |  |  |
| <b>Test Details</b>   |  |                 |         |                     |    |  |  |  |

Measured Power Spectrum Within 20% Of Maximum Lower Limits Value: N/A dB  
Measured Power Spectrum Within 20% Of Minimum Lower Limits Value: N/A dB

|   |  |          |         |          |    |
|---|--|----------|---------|----------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |          |    |
| <b>Clause 4.2.2 , Instantaneous Voltage</b>                         |  |          |         |          |    |
| ID  | 4293   | Job No   | 1000281 |          |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |          |    |
| Product   | XL-2029IDM;TK4060  |          |         |          |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006  |          |         |          |    |
| Purpose Of Test   | To Check The Peak To Peak Voltage Of The TE Whilst Generating Representative Signals |          |         |          |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |          |    |
| Operating State   | Off Hook (on line) quiet   |          |         |          |    |
| Test Class  | Formal Test  | Engineer | Jack    |          |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:53:26   | Temp     | 25      | Humidity | 56 |
| Tested With Auto Test Run (EUT Master): No                          |  |          |         |          |    |
| <b>Test Result</b>  |  |          |         |          |    |

Overall Test Status: Pass

**Test Condition 1, 2300Ohms Feed Resistance, Normal Polarity**

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.3k Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

Maximum Instantaneous Voltage pktpk measured in the band: 200 Hz, To 3.8k Hz

Measured Over A Period Of 10 Secs

Measured Instantaneous Voltage Must Be &lt;= 5 Vpktpk

**Measured Instantaneous Voltage: 0.3658 Vpktpk**Measured Instantaneous Voltage Status Against Upper Limit: Pass**Test Condition Status: Pass****Test Condition 2, 400 Ohms Feed Resistance, Reverse Polarity**

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 400 Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

Maximum Instantaneous Voltage pktpk measured in the band: 200 Hz, To 3.8k Hz

Measured Over A Period Of 10 Secs

Measured Instantaneous Voltage Must Be &lt;= 5 Vpktpk

**Measured Instantaneous Voltage: 0.7807 Vpktpk**Measured Instantaneous Voltage Status Against Upper Limit: Pass**Test Condition Status: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.2, Instantaneous Voltage**

|                        |  |                 |         |
|------------------------|--|-----------------|---------|
| <b>ID</b>              | 4293   | <b>Job No</b>   | 1000281 |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd   |                 |         |
| <b>Product</b>         | XL-2029IDM;TK4060  |                 |         |
| <b>Specification</b>   | ETSI ES 203 021-2 v2.1.2 January 2006  |                 |         |
| <b>Purpose Of Test</b> | To Check The Peak To Peak Voltage Of The TE Whilst Generating Representative Signals |                 |         |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00  |                 |         |
| <b>Operating State</b> | Off Hook (on line) quiet   |                 |         |
| <b>Test Class</b>      | Formal Test  | <b>Engineer</b> | Jack    |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>15:53:26   | <b>Temp</b>     | 25      |
|                        |  | <b>Humidity</b> | 56      |
| <b>Test Details</b>    |  |                 |         |

## TestCondition 1

Test Description: 2300Ohms Feed Resistance, Normal Polarity

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set DC Line Current: 0 (0 = do not set, 1 = set)

Feed Resistance: 2.3k Ohms

Set Feed Resistance: 1 (0 = Do Not Set, 1 = Set)

Feed Circuit Polarity: Normal Polarity

Feed Circuit Inductance Per Leg: 10H

Feedbridge DC Blocking Capacitance Per Leg: 500u F

During Test EUT Is Off Hook

EUT Is Off Hook When DC Line Current Exceeds: 5m A

Termination Impedance Rs: 270 Ohms

Termination Impedance Rp: 750 Ohms

Termination Impedance Cp: 0.15u F

External Analyser Connection Enabled During Test: 0 (0 = disabled, 1 = enabled)

rms measurements integrated over period of: 100ms

Total Power Measurement Units: dBV

Total Power Reference Voltage Level for dBV measurements: 1 Vrms

Total Power Reference termination for dBm measurements: 600 Ohms

Total Mean Power Averaged Over A Total Period Of: 60 Secs

Conduct Instantaneous Voltage Test: 1 (0 = Do Not Test, 1 = Test)

Instantaneous Voltage Test Minimum Frequency: 200 Hz

Instantaneous Voltage Test Maximum Frequency: 3.8k Hz

Instantaneous Voltage Evaluated Over 10 Secs

Apply Measured Instantaneous Voltage Lower Limit: 0 (0 = Do Not Apply, 1 = Apply)

Measured Instantaneous Voltage Must Be  $\leq 5$  Vpktpk

Apply Instantaneous Voltage Upper Limit: 1 (0 = Do Not Apply, 1 = Apply)

For Spectral Density Test Lower Limits, Please see test results

For Spectral Density Test Upper limits, Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Mean Power Level: N/A dB

Measured Max Power Level: N/A dB

Measured Instantaneous Voltage: 1.16 %

Measured Power Spectrum Within 20% Of Maximum Upper Limits Value: N/A dB

Measured Power Spectrum Within 20% Of Minimum Upper Limits Value: N/A dB

Measured Power Spectrum Within 20% Of Maximum Lower Limits Value: N/A dB

Measured Power Spectrum Within 20% Of Minimum Lower Limits Value: N/A dB

| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |    |          |    |
|---|--|----------|----|----------|----|
| Clause 4.2.2, Instantaneous Voltage                                 |  |          |    |          |    |
| ID  | 4293   | Job No   |    | 1000281  |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |    |          |    |
| Product   | XL-2029IDM;TK4060  |          |    |          |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006  |          |    |          |    |
| Purpose Of Test   | To Check The Peak To Peak Voltage Of The TE Whilst Generating Representative Signals |          |    |          |    |
|   |  |          |    |          |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |    |          |    |
| Operating State   | Off Hook (on line) quiet   |          |    |          |    |
| Test Class  | Formal Test  | Engineer |    | Jack     |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:53:26   | Temp     | 25 | Humidity | 56 |
|   |  |          |    |          |    |
| Test Details  |  |          |    |          |    |

## TestCondition 2

Test Description: 400 Ohms Feed Resistance, Reverse Polarity  
 DC Feed Voltage: 50 Vdc  
 DC Feed Current: 100m A  
 Set DC Line Current: 0 (0 = do not set, 1 = set)  
 Feed Resistance: 400 Ohms  
 Set Feed Resistance: 1 (0 = Do Not Set, 1 = Set)  
 Feed Circuit Polarity: Reverse Polarity  
 Feed Circuit Inductance Per Leg: 10H  
 Feedbridge DC Blocking Capacitance Per Leg: 500u F  
 During Test EUT Is Off Hook  
 EUT Is Off Hook When DC Line Current Exceeds: 5m A  
 Termination Impedance Rs: 270 Ohms  
 Termination Impedance Rp: 750 Ohms  
 Termination Impedance Cp: 0.15u F  
 External Analyser Connection Enabled During Test: 0 (0 = disabled, 1 = enabled)  
 rms measurements integrated over period of: 100ms  
 Total Power Measurement Units: dBV  
 Total Power Reference Voltage Level for dBV measurements: 1 Vrms  
 Total Power Reference termination for dBm measurements: 600 Ohms  
 Total Mean Power Averaged Over A Total Period Of: 60 Secs  
 Conduct Instantaneous Voltage Test: 1 (0 = Do Not Test, 1 = Test)  
 Instantaneous Voltage Test Minimum Frequency: 200 Hz  
 Instantaneous Voltage Test Maximum Frequency: 3.8k Hz  
 Instantaneous Voltage Evaluated Over 10 Secs  
 Apply Measured Instantaneous Voltage Lower Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Measured Instantaneous Voltage Must Be  $\leq 5 V_{pktpk}$   
 Apply Instantaneous Voltage Upper Limit: 1 (0 = Do Not Apply, 1 = Apply)  
 For Spectral Density Test Lower Limits, Please see test results  
 For Spectral Density Test Upper limits, Please see test results  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured Mean Power Level: N/A dB  
 Measured Max Power Level: N/A dB  
 Measured Instantaneous Voltage: 1.16 %  
 Measured Power Spectrum Within 20% Of Maximum Upper Limits Value: N/A dB  
 Measured Power Spectrum Within 20% Of Minimum Upper Limits Value: N/A dB  
 Measured Power Spectrum Within 20% Of Maximum Lower Limits Value: N/A dB  
 Measured Power Spectrum Within 20% Of Minimum Lower Limits Value: N/A dB

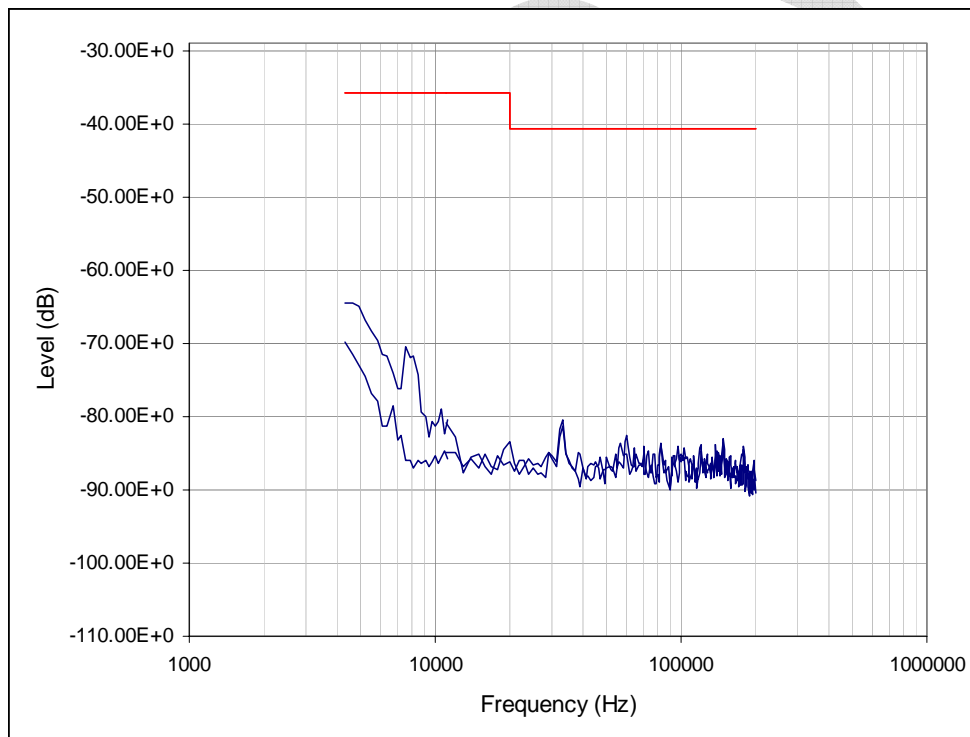


Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.4, Sending Levels Between 4.3kHz and 200kHz**

|  |   |                |                    |
|--|---|----------------|--------------------|
| ID   | 4294  | Job No         | 1000281            |
| Customer                                   | Xingtel Xiamen Electronics Co.,Ltd  |                |                    |
| Product                                    | XL-2029IDM;TK4060   |                |                    |
| Specification                              | ETSI ES 203 021-2 v2.1.2 January 2006   |                |                    |
| Purpose Of Test                            | To check that "out of band" frequency components during DTMF dialling are within limits |                |                    |
| EUT Details                                | Sample Number: 0001, Modification State: 00   |                |                    |
| Operating State                            | Off Hook (on line) quiet  |                |                    |
| Test Class                                 | Formal Test   | Engineer       | Jack               |
| Date & Time                                | Wed<br>09/Dec/2009<br>15:43:22  | Temp ( )<br>25 | Humidity (%)<br>56 |
| Tested With Auto Test Run (EUT Master): No |   |                |                    |
| Test Result                                |   |                |                    |

Overall Test Status: Pass

**Test Condition 1, 4.3kHz to 12kHz, 2300Ohms Feed Resistance, Normal Polarity**

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.3k Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

Power Spectrum Measurements Units: dBV, with reference to 1 Vrms

Power Spectrum measured in the band: 4.3k Hz, To 12k Hz, Measured With A RBW Of: 300 Hz

Measured Over A Period Of 10 Secs

Power Spectrum Type Is Peak Hold, Power Spectrum Limits Are Absolute

Measured Power Spectrum Status Against Upper Limit: Pass**Test Condition Status: Pass****Test Condition 2, 12kHz to 200kHz, 2300 ohms Feed Resistance, Normal Polarity**

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.3k Ohms

| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |  |    |              |    |
|---|---|--|----|--------------|----|
| Clause 4.2.4, Sending Levels Between 4.3kHz and 200kHz              |   |  |    |              |    |
| ID  | 4294  | Job No                                     |    | 1000281      |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |  |    |              |    |
| Product   | XL-2029IDM;TK4060   |  |    |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006   |  |    |              |    |
| Purpose Of Test   | To check that "out of band" frequency components during DTMF dialling are within limits |  |    |              |    |
|   |   |  |    |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |  |    |              |    |
| Operating State   | Off Hook (on line) quiet  |  |    |              |    |
| Test Class  | Formal Test   | Engineer                                   |    | Jack         |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:43:22  | Temp ( )                                   | 25 | Humidity (%) | 56 |
|   |   | Tested With Auto Test Run (EUT Master): No |    |              |    |
|   |   |  |    |              |    |
| Test Result   |   |  |    |              |    |

## Overall Test Status: Pass

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

Power Spectrum Measurements Units: dBV, with reference to 1 Vrms

Power Spectrum measured in the band: 12k Hz, To 200k Hz, Measured With A RBW Of: 1k Hz

Measured Over A Period Of 10 Secs

Power Spectrum Type Is Peak Hold, Power Spectrum Limits Are Absolute

Measured Power Spectrum Status Against Upper Limit: Pass

Test Condition Status: PassTest Condition 3, 4.3kHz to 12kHz, 400 Ohms Feed Resistance, Reverse Polarity

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 400 Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

Power Spectrum Measurements Units: dBV, with reference to 1 Vrms

Power Spectrum measured in the band: 4.3k Hz, To 12k Hz, Measured With A RBW Of: 300 Hz

Measured Over A Period Of 10 Secs

Power Spectrum Type Is Peak Hold, Power Spectrum Limits Are Absolute

Measured Power Spectrum Status Against Upper Limit: Pass

Test Condition Status: PassTest Condition 4, 12kHz to 200kHz, 400 Ohms Feed Resistance, Reverse Polarity

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 400 Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

Power Spectrum Measurements Units: dBV, with reference to 1 Vrms

Power Spectrum measured in the band: 12k Hz, To 200k Hz, Measured With A RBW Of: 1k Hz

Measured Over A Period Of 10 Secs

Power Spectrum Type Is Peak Hold, Power Spectrum Limits Are Absolute

Measured Power Spectrum Status Against Upper Limit: Pass

Test Condition Status: Pass

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.4, Sending Levels Between 4.3kHz and 200kHz**

|                        |   |                     |         |
|------------------------|---|---------------------|---------|
| <b>ID</b>              | 4294  | <b>Job No</b>       | 1000281 |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd  |                     |         |
| <b>Product</b>         | XL-2029IDM;TK4060   |                     |         |
| <b>Specification</b>   | ETSI ES 203 021-2 v2.1.2 January 2006   |                     |         |
| <b>Purpose Of Test</b> | To check that "out of band" frequency components during DTMF dialling are within limits |                     |         |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00   |                     |         |
| <b>Operating State</b> | Off Hook (on line) quiet  |                     |         |
| <b>Test Class</b>      | Formal Test   | <b>Engineer</b>     | Jack    |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>15:43:22  | <b>Temp ( )</b>     | 25      |
|                        |   | <b>Humidity (%)</b> | 56      |

**Test Details**

## TestCondition 1

Test Description: 4.3kHz to 12kHz, 2300Ohms Feed Resistance, Normal Polarity  
DC Feed Voltage: 50 Vdc  
DC Feed Current: 100m A  
Set DC Line Current: 0 (0 = do not set, 1 = set)  
Feed Resistance: 2.3k Ohms  
Set Feed Resistance: 1 (0 = Do Not Set, 1 = Set)  
Feed Circuit Polarity: Normal Polarity  
Feed Circuit Inductance Per Leg: 10H  
Feedbridge DC Blocking Capacitance Per Leg: 500u F  
During Test EUT Is Off Hook  
EUT Is Off Hook When DC Line Current Exceeds: 5m A  
Termination Impedance Rs: 270 Ohms  
Termination Impedance Rp: 750 Ohms  
Termination Impedance Cp: 0.15u F  
External Analyser Connection Enabled During Test: 0 (0 = disabled, 1 = enabled)  
rms measurements integrated over period of: 100ms  
Conduct Spectral Density Measurement 1 (0 = Do Not Test, 1 = Test)  
Measurement Units Used For Spectral Density Test: dBV  
Reference Voltage Level For dBV Spectral Density Measurements: 1 Vrms  
Reference Termination For dBm Spectral Density Measurements: 600 Ohms  
Spectral Density Measurements Minimum Frequency: 4.3k Ohms  
Spectral Density Measurements Maximum Frequency: 12k Hz  
Measurement Bandwidth For Spectral Density Measurements: 300 Hz  
Spectral Density Measurements Taken Over A Period Of: 10 Secs  
Spectral Density Measurement Type: Peak Hold  
Spectral Density Limits Are: Absolute  
Apply Spectral Density Lower Test Limits: 0 (0 = Do Not Apply, 1 = Apply)  
Apply Spectral Density Upper Test Limits: 1 (0 = Do Not Apply, 1 = Apply)  
For Spectral Density Test Lower Limits, Please see test results  
For Spectral Density Test Upper limits, Please see test results  
Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
Measured Mean Power Level: N/A dB  
Measured Max Power Level: N/A dB  
Measured Instantaneous Voltage: N/A %  
Measured Power Spectrum Within 20% Of Maximum Upper Limits Value: 0.11 dB  
Measured Power Spectrum Within 20% Of Minimum Upper Limits Value: 0.10 dB  
Measured Power Spectrum Within 20% Of Maximum Lower Limits Value: N/A dB

| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |    |              |    |
|---|---|----------|----|--------------|----|
| Clause 4.2.4, Sending Levels Between 4.3kHz and 200kHz              |   |          |    |              |    |
| ID  | 4294  | Job No   |    | 1000281      |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |    |              |    |
| Product   | XL-2029IDM;TK4060   |          |    |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006   |          |    |              |    |
| Purpose Of Test   | To check that "out of band" frequency components during DTMF dialling are within limits |          |    |              |    |
|   |   |          |    |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |    |              |    |
| Operating State   | Off Hook (on line) quiet  |          |    |              |    |
| Test Class  | Formal Test   | Engineer |    | Jack         |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:43:22  | Temp ( ) | 25 | Humidity (%) | 56 |
|   |   |          |    |              |    |
| Test Details  |   |          |    |              |    |

Measured Power Spectrum Within 20% Of Minimum Lower Limits Value: N/A dB

TestCondition 2

Test Description: 12kHz to 200kHz, 2300 ohms Feed Resistance, Normal Polarity

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set DC Line Current: 0 (0 = do not set, 1 = set)

Feed Resistance: 2.3k Ohms

Set Feed Resistance: 1 (0 = Do Not Set, 1 = Set)

Feed Circuit Polarity: Normal Polarity

Feed Circuit Inductance Per Leg: 10H

Feedbridge DC Blocking Capacitance Per Leg: 500u F

During Test EUT Is Off Hook

EUT Is Off Hook When DC Line Current Exceeds: 5m A

Termination Impedance Rs: 270 Ohms

Termination Impedance Rp: 750 Ohms

Termination Impedance Cp: 0.15u F

External Analyser Connection Enabled During Test: 0 (0 = disabled, 1 = enabled)

rms measurements integrated over period of: 100ms

Conduct Spectral Density Measurement 1 (0 = Do Not Test, 1 = Test)

Measurement Units Used For Spectral Density Test: dBV

Reference Voltage Level For dBV Spectral Density Measurements: 1 Vrms

Reference Termination For dBm Spectral Density Measurements: 600 Ohms

Spectral Density Measurements Minimum Frequency: 12k Ohms

Spectral Density Measurements Maximum Frequency: 200k Hz

Measurement Bandwidth For Spectral Density Measurements: 1k Hz

Spectral Density Measurements Taken Over A Period Of: 10 Secs

Spectral Density Measurement Type: Peak Hold

Spectral Density Limits Are: Absolute

Apply Spectral Density Lower Test Limits: 0 (0 = Do Not Apply, 1 = Apply)

Apply Spectral Density Upper Test Limits: 1 (0 = Do Not Apply, 1 = Apply)

For Spectral Density Test Lower Limits, Please see test results

For Spectral Density Test Upper limits, Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Mean Power Level: N/A dB

Measured Max Power Level: N/A dB

Measured Instantaneous Voltage: N/A %

Measured Power Spectrum Within 20% Of Maximum Upper Limits Value: 0.11 dB

Measured Power Spectrum Within 20% Of Minimum Upper Limits Value: 0.10 dB

Measured Power Spectrum Within 20% Of Maximum Lower Limits Value: N/A dB

| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |    |              |    |
|---|---|----------|----|--------------|----|
| Clause 4.2.4, Sending Levels Between 4.3kHz and 200kHz              |   |          |    |              |    |
| ID  | 4294  | Job No   |    | 1000281      |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |    |              |    |
| Product   | XL-2029IDM;TK4060   |          |    |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006   |          |    |              |    |
| Purpose Of Test   | To check that "out of band" frequency components during DTMF dialling are within limits |          |    |              |    |
|   |   |          |    |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |    |              |    |
| Operating State   | Off Hook (on line) quiet  |          |    |              |    |
| Test Class  | Formal Test   | Engineer |    | Jack         |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:43:22  | Temp ( ) | 25 | Humidity (%) | 56 |
|   |   |          |    |              |    |
| Test Details  |   |          |    |              |    |

Measured Power Spectrum Within 20% Of Minimum Lower Limits Value: N/A dB

TestCondition 3

Test Description: 4.3kHz to 12kHz, 400 Ohms Feed Resistance, Reverse Polarity

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set DC Line Current: 0 (0 = do not set, 1 = set)

Feed Resistance: 400 Ohms

Set Feed Resistance: 1 (0 = Do Not Set, 1 = Set)

Feed Circuit Polarity: Reverse Polarity

Feed Circuit Inductance Per Leg: 10H

Feedbridge DC Blocking Capacitance Per Leg: 500u F

During Test EUT Is Off Hook

EUT Is Off Hook When DC Line Current Exceeds: 5m A

Termination Impedance Rs: 270 Ohms

Termination Impedance Rp: 750 Ohms

Termination Impedance Cp: 0.15u F

External Analyser Connection Enabled During Test: 0 (0 = disabled, 1 = enabled)

rms measurements integrated over period of: 100ms

Conduct Spectral Density Measurement 1 (0 = Do Not Test, 1 = Test)

Measurement Units Used For Spectral Density Test: dBV

Reference Voltage Level For dBV Spectral Density Measurements: 1 Vrms

Reference Termination For dBm Spectral Density Measurements: 600 Ohms

Spectral Density Measurements Minimum Frequency: 4.3k Ohms

Spectral Density Measurements Maximum Frequency: 12k Hz

Measurement Bandwidth For Spectral Density Measurements: 300 Hz

Spectral Density Measurements Taken Over A Period Of: 10 Secs

Spectral Density Measurement Type: Peak Hold

Spectral Density Limits Are: Absolute

Apply Spectral Density Lower Test Limits: 0 (0 = Do Not Apply, 1 = Apply)

Apply Spectral Density Upper Test Limits: 1 (0 = Do Not Apply, 1 = Apply)

For Spectral Density Test Lower Limits, Please see test results

For Spectral Density Test Upper limits, Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Mean Power Level: N/A dB

Measured Max Power Level: N/A dB

Measured Instantaneous Voltage: N/A %

Measured Power Spectrum Within 20% Of Maximum Upper Limits Value: 0.11 dB

Measured Power Spectrum Within 20% Of Minimum Upper Limits Value: 0.10 dB

Measured Power Spectrum Within 20% Of Maximum Lower Limits Value: N/A dB

|   |   |          |    |              |    |
|---|---|----------|----|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |    |              |    |
| Clause 4.2.4, Sending Levels Between 4.3kHz and 200kHz              |   |          |    |              |    |
| ID  | 4294  | Job No   |    | 1000281      |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |    |              |    |
| Product   | XL-2029IDM;TK4060   |          |    |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006   |          |    |              |    |
| Purpose Of Test   | To check that "out of band" frequency components during DTMF dialling are within limits |          |    |              |    |
|   |   |          |    |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |    |              |    |
| Operating State   | Off Hook (on line) quiet  |          |    |              |    |
| Test Class  | Formal Test   | Engineer |    | Jack         |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:43:22  | Temp ( ) | 25 | Humidity (%) | 56 |
|   |   |          |    |              |    |
| Test Details  |   |          |    |              |    |

Measured Power Spectrum Within 20% Of Minimum Lower Limits Value: N/A dB

TestCondition 4

Test Description: 121kHz to 200kHz, 400 Ohms Feed Resistance, Reverse Polarity

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set DC Line Current: 0 (0 = do not set, 1 = set)

Feed Resistance: 400 Ohms

Set Feed Resistance: 1 (0 = Do Not Set, 1 = Set)

Feed Circuit Polarity: Reverse Polarity

Feed Circuit Inductance Per Leg: 10H

Feedbridge DC Blocking Capacitance Per Leg: 500u F

During Test EUT Is Off Hook

EUT Is Off Hook When DC Line Current Exceeds: 5m A

Termination Impedance Rs: 270 Ohms

Termination Impedance Rp: 750 Ohms

Termination Impedance Cp: 0.15u F

External Analyser Connection Enabled During Test: 0 (0 = disabled, 1 = enabled)

rms measurements integrated over period of: 100ms

Conduct Spectral Density Measurement 1 (0 = Do Not Test, 1 = Test)

Measurement Units Used For Spectral Density Test: dBV

Reference Voltage Level For dBV Spectral Density Measurements: 1 Vrms

Reference Termination For dBm Spectral Density Measurements: 600 Ohms

Spectral Density Measurements Minimum Frequency: 12k Ohms

Spectral Density Measurements Maximum Frequency: 200k Hz

Measurement Bandwidth For Spectral Density Measurements: 1k Hz

Spectral Density Measurements Taken Over A Period Of: 10 Secs

Spectral Density Measurement Type: Peak Hold

Spectral Density Limits Are: Absolute

Apply Spectral Density Lower Test Limits: 0 (0 = Do Not Apply, 1 = Apply)

Apply Spectral Density Upper Test Limits: 1 (0 = Do Not Apply, 1 = Apply)

For Spectral Density Test Lower Limits, Please see test results

For Spectral Density Test Upper limits, Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Mean Power Level: N/A dB

Measured Max Power Level: N/A dB

Measured Instantaneous Voltage: N/A %

Measured Power Spectrum Within 20% Of Maximum Upper Limits Value: 0.11 dB

Measured Power Spectrum Within 20% Of Minimum Upper Limits Value: 0.10 dB

Measured Power Spectrum Within 20% Of Maximum Lower Limits Value: N/A dB

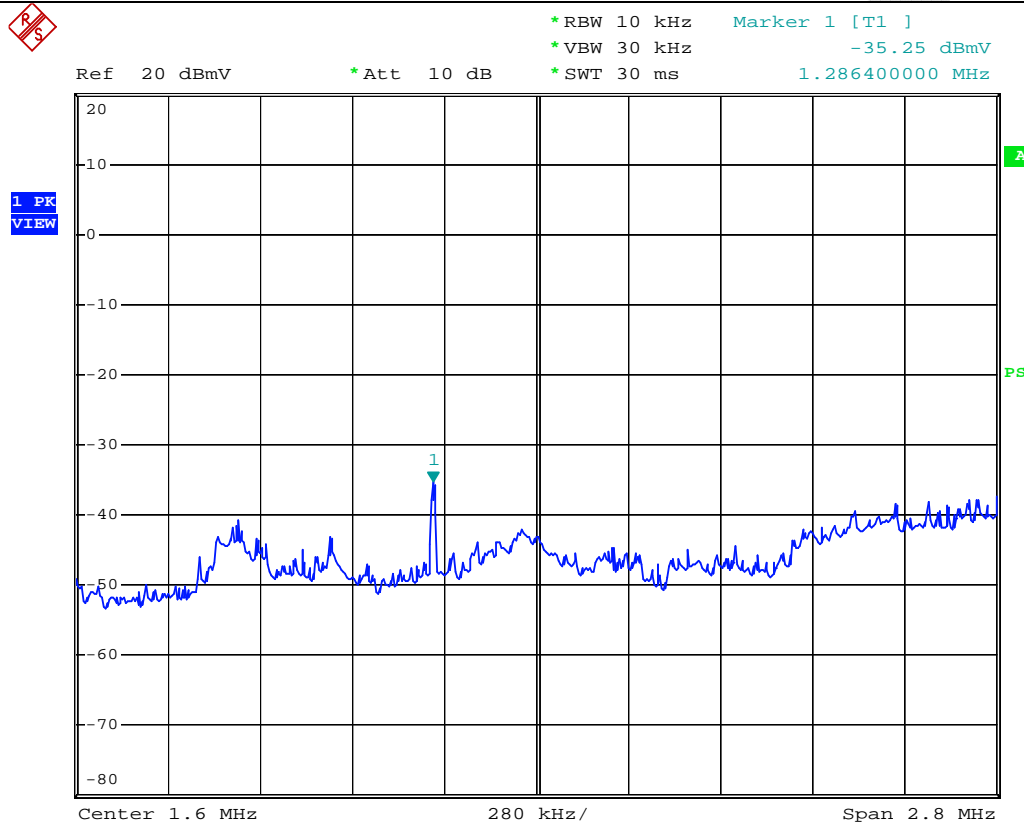
|  |   |                 |         |                     |    |  |  |  |
|--|---|-----------------|---------|---------------------|----|--|--|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)      |   |                 |         |                     |    |  |  |  |
| <b>Clause 4.2.4, Sending Levels Between 4.3kHz and 200kHz</b>            |   |                 |         |                     |    |  |  |  |
| <b>ID</b>  | 4294  | <b>Job No</b>   | 1000281 |                     |    |  |  |  |
| <b>Customer</b>  | Xingtel Xiamen Electronics Co.,Ltd  |                 |         |                     |    |  |  |  |
| <b>Product</b>   | XL-2029IDM;TK4060   |                 |         |                     |    |  |  |  |
| <b>Specification</b>   | ETSI ES 203 021-2 v2.1.2 January 2006   |                 |         |                     |    |  |  |  |
| <b>Purpose Of Test</b>   | To check that "out of band" frequency components during DTMF dialling are within limits |                 |         |                     |    |  |  |  |
|  |   |                 |         |                     |    |  |  |  |
| <b>EUT Details</b>   | Sample Number: 0001, Modification State: 00   |                 |         |                     |    |  |  |  |
| <b>Operating State</b>   | Off Hook (on line) quiet  |                 |         |                     |    |  |  |  |
| <b>Test Class</b>  | Formal Test   | <b>Engineer</b> | Jack    |                     |    |  |  |  |
| <b>Date &amp; Time</b>   | Wed<br>09/Dec/2009<br>15:43:22  | <b>Temp ( )</b> | 25      | <b>Humidity (%)</b> | 56 |  |  |  |
|  |   |                 |         |                     |    |  |  |  |
| <b>Test Details</b>  |   |                 |         |                     |    |  |  |  |
|  |   |                 |         |                     |    |  |  |  |
| Measured Power Spectrum Within 20% Of Minimum Lower Limits Value: N/A dB |   |                 |         |                     |    |  |  |  |

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.5, Sending Level From 200kHz to 30MHz**

|  |  |                |                    |
|--|--|----------------|--------------------|
| ID   | 4295   | Job No         | 1000281            |
| Customer                                   | Xingtel Xiamen Electronics Co.,Ltd                                     |                |                    |
| Product                                    | XL-2029IDM;TK4060  |                |                    |
| Specification                              | ETSI ES 203 021-2 v2.1.2 January 2006                                  |                |                    |
| Purpose Of Test                            | To check that sending level of TE are within limits                    |                |                    |
| EUT Details                                | Sample Number: 0001, Modification State: 00                            |                |                    |
| Operating State                            | Off Hook (on line) quiet, Test Condition 1: 200kHz to 30MHz, 2300 Ohms |                |                    |
| Test Class                                 | Formal Test  | Engineer       | Jack               |
| Date & Time                                | Wed<br>09/Dec/2009<br>15:32:30   | Temp ( )<br>25 | Humidity (%)<br>56 |
| Tested With Auto Test Run (EUT Master): No |  |                |                    |
| Test Result                                |  |                |                    |

Overall Test Status: Pass



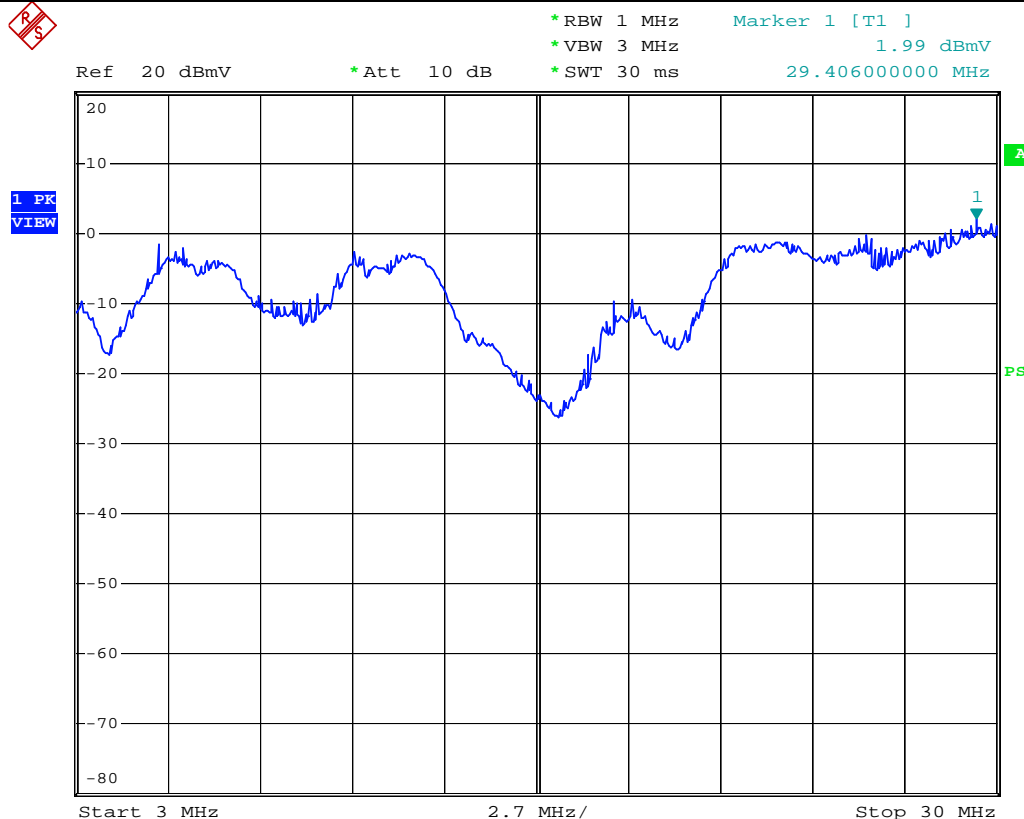
Date: 13.DEC.2009 17:16:00



Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.5, Sending Level From 200kHz to 30MHz**

|                 |  |  |         |              |    |
|-----------------|--|--|---------|--------------|----|
| ID              | 4295   | Job No                                     | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd                                     |  |         |              |    |
| Product         | XL-2029IDM;TK4060  |  |         |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006                                  |  |         |              |    |
| Purpose Of Test | To check that sending level of TE are within limits                    |  |         |              |    |
|                 |  |  |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00                            |  |         |              |    |
| Operating State | Off Hook (on line) quiet, Test Condition 1: 200kHz to 30MHz, 2300 Ohms |  |         |              |    |
| Test Class      | Formal Test  | Engineer                                   | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:32:30   | Temp ( )                                   | 25      | Humidity (%) | 56 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |              |    |

**Test Result****Overall Test Status: Pass**

Date: 13.DEC.2009 17:19:35

**Test Condition 1, 200 kHz to 30 MHz, 2300 Ohms**

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.3k Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R//0.15uF)

|   |  |  |    |              |    |
|---|--|--|----|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |  |    |              |    |
| Clause 4.2.5, Sending Level From 200kHz to 30MHz                    |  |  |    |              |    |
| ID  | 4295   | Job No                                     |    | 1000281      |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd                                     |  |    |              |    |
| Product   | XL-2029IDM;TK4060  |  |    |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006                                  |  |    |              |    |
| Purpose Of Test   | To check that sending level of TE are within limits                    |  |    |              |    |
|   |  |  |    |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                            |  |    |              |    |
| Operating State   | Off Hook (on line) quiet, Test Condition 1: 200kHz to 30MHz, 2300 Ohms |  |    |              |    |
| Test Class  | Formal Test  | Engineer                                   |    | Jack         |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:32:30   | Temp ( )                                   | 25 | Humidity (%) | 56 |
|   |  | Tested With Auto Test Run (EUT Master): No |    |              |    |
|   |  |  |    |              |    |
| Test Result   |  |  |    |              |    |

Overall Test Status: Pass

Power Spectrum Measurements Units: dBV, with reference to 1 Vrms  
 Power Spectrum measured in the band: 200k Hz, To 3 MHz, Measured With A RBW Of: 10 kHz  
 Power Spectrum measured in the band: 3 MHz, To 30 MHz, Measured With A RBW Of: 1 MHz  
 Measured Over A Period Of 10 Secs  
 Power Spectrum Type Is Peak Hold, Power Spectrum Limits Are Absolute  
 Measured Power Spectrum Status Against Upper Limit: Pass

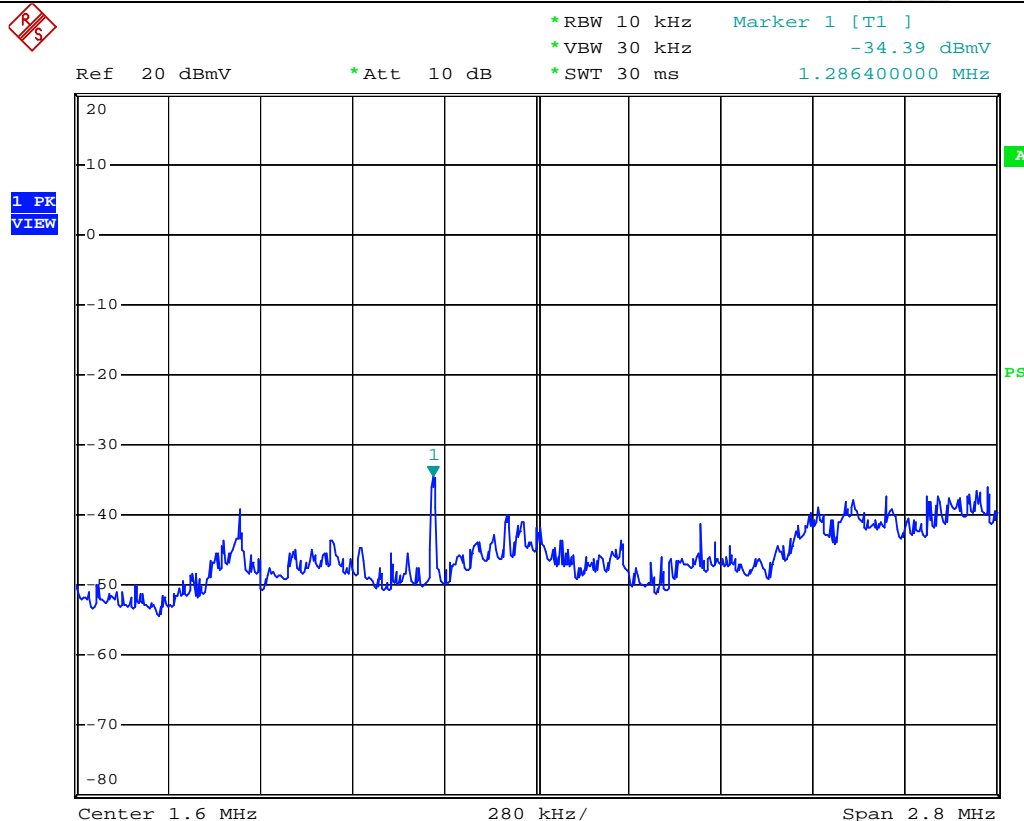
Test Condition Status: Pass

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.5, Sending Level From 200kHz to 30MHz**

|  |   |                |                    |
|--|---|----------------|--------------------|
| ID   | 4295  | Job No         | 1000281            |
| Customer                                   | Xingtel Xiamen Electronics Co.,Ltd                                    |                |                    |
| Product                                    | XL-2029IDM;TK4060   |                |                    |
| Specification                              | ETSI ES 203 021-2 v2.1.2 January 2006                                 |                |                    |
| Purpose Of Test                            | To check that sending level of TE are within limits                   |                |                    |
| EUT Details                                | Sample Number: 0001, Modification State: 00                           |                |                    |
| Operating State                            | Off Hook (on line) quiet, Test Condition 1: 200kHz to 30MHz, 400 Ohms |                |                    |
| Test Class                                 | Formal Test   | Engineer       | Jack               |
| Date & Time                                | Wed<br>09/Dec/2009<br>15:32:30  | Temp ( )<br>25 | Humidity (%)<br>56 |
| Tested With Auto Test Run (EUT Master): No |   |                |                    |
| Test Result                                |   |                |                    |

Overall Test Status: Pass

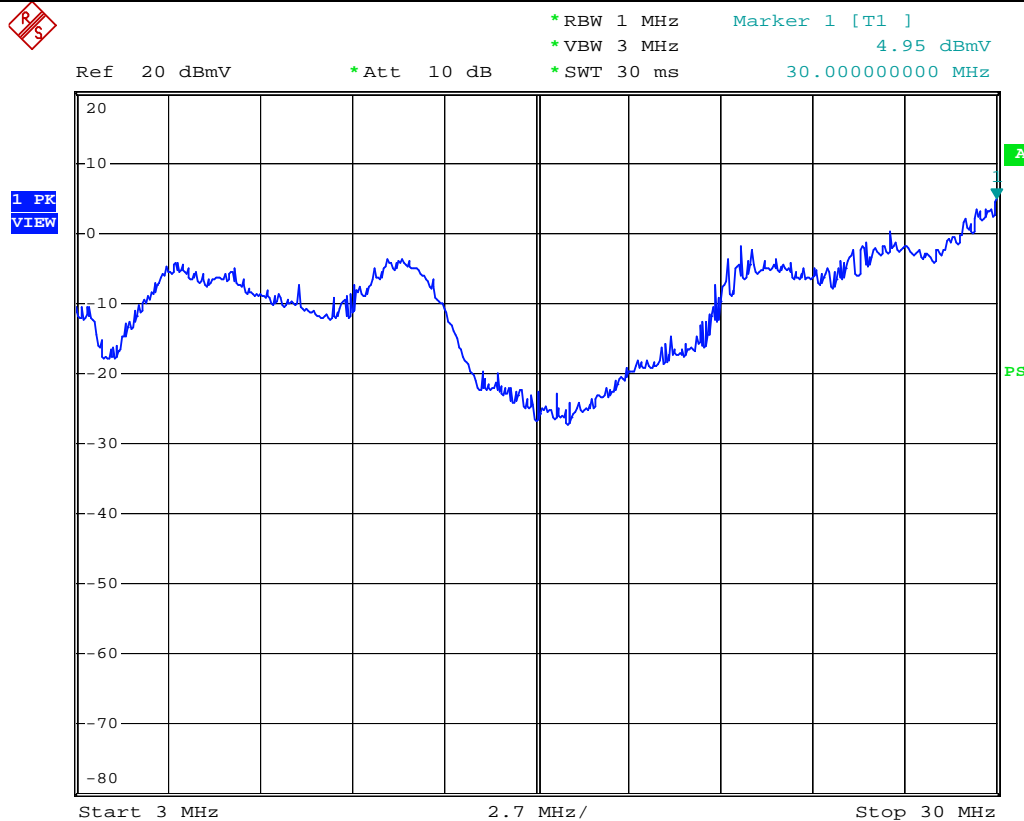


Date: 13.DEC.2009 17:14:15

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.2.5, Sending Level From 200kHz to 30MHz**

|                 |   |  |         |              |    |
|-----------------|---|--|---------|--------------|----|
| ID              | 4295  | Job No                                     | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd                                    |  |         |              |    |
| Product         | XL-2029IDM;TK4060   |  |         |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006                                 |  |         |              |    |
| Purpose Of Test | To check that sending level of TE are within limits                   |  |         |              |    |
|                 |   |  |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00                           |  |         |              |    |
| Operating State | Off Hook (on line) quiet, Test Condition 1: 200kHz to 30MHz, 400 Ohms |  |         |              |    |
| Test Class      | Formal Test   | Engineer                                   | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:32:30  | Temp ( )                                   | 25      | Humidity (%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |              |    |

**Test Result****Overall Test Status: Pass**

Date: 13.DEC.2009 17:50:49

**Test Condition 2, 200 kHz to 30 MHz, 400 Ohms**

DC Feed Voltage: 50 Vdc, DC Feed Resistance: 400 Ohms

EUT was Off Hook, EUT generating signal: Off Hook (on line) quiet, Terminating Impedance: 270R+(750R/0.15uF)

|   |   |  |    |              |    |
|---|---|--|----|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |  |    |              |    |
| Clause 4.2.5, Sending Level From 200kHz to 30MHz                    |   |  |    |              |    |
| ID  | 4295  | Job No                                     |    | 1000281      |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd                                    |  |    |              |    |
| Product   | XL-2029IDM;TK4060   |  |    |              |    |
| Specification   | ETSI ES 203 021-2 v2.1.2 January 2006                                 |  |    |              |    |
| Purpose Of Test   | To check that sending level of TE are within limits                   |  |    |              |    |
|   |   |  |    |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                           |  |    |              |    |
| Operating State   | Off Hook (on line) quiet, Test Condition 1: 200kHz to 30MHz, 400 Ohms |  |    |              |    |
| Test Class  | Formal Test   | Engineer                                   |    | Jack         |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:32:30  | Temp ( )                                   | 25 | Humidity (%) | 56 |
|   |   | Tested With Auto Test Run (EUT Master): No |    |              |    |
|   |   |  |    |              |    |
| Test Result   |   |  |    |              |    |

## Overall Test Status: Pass

Power Spectrum Measurements Units: dBV, with reference to 1 Vrms  
 Power Spectrum measured in the band: 200k Hz, To 3 MHz, Measured With A RBW Of: 10 kHz  
 Power Spectrum measured in the band: 3 MHz, To 30 MHz, Measured With A RBW Of: 1 MHz  
 Measured Over A Period Of 10 Secs  
 Power Spectrum Type Is Peak Hold, Power Spectrum Limits Are Absolute  
 Measured Power Spectrum Status Against Upper Limit: Pass

Test Condition Status: Pass

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.3, Power feeding limitations**

|   |  |                   |                       |
|---|--|-------------------|-----------------------|
| <b>ID</b>   | 4296   | <b>Job No</b>     | 1000281               |
| <b>Customer</b>                                   | Xingtel Xiamen Electronics Co.,Ltd   |                   |                       |
| <b>Product</b>                                    | XL-2029IDM;TK4060  |                   |                       |
| <b>Specification</b>                              | ETSI ES 203 021-2 v2.1.2 January 2006  |                   |                       |
| <b>Purpose Of Test</b>                            | To verify that the TE does not feed the TN interface and the current through 300 Ohms is less than 1mA |                   |                       |
| <b>EUT Details</b>                                | Sample Number: 0001, Modification State: 00  |                   |                       |
| <b>Operating State</b>                            |  |                   |                       |
| <b>Test Class</b>                                 | Formal Test  | <b>Engineer</b>   | Jack                  |
| <b>Date &amp; Time</b>                            | Wed 09/Dec/2009<br>15:46:30  | <b>Temp( )</b> 25 | <b>Humidity(%)</b> 56 |
| <b>Tested With Auto Test Run (EUT Master): No</b> |  |                   |                       |
| <b>Test Result</b>                                |  |                   |                       |

**Overall Test Status: Pass****Test Condition 1, Test Condition 1: 50Vdc Normal Polarity**

DC Feed Voltage: 50 Vdc, DC Feed Resistance: 300 Ohms, DC Feed Polarity: Normal Polarity

DC Current Must Be &lt;= 1m A

**Measured DC Current: <1m A**DC Current Status Against Upper Limit: **Pass****Measured Resistance: >1M Ohms****Test Condition Status: Pass****Test Condition 2, Test Condition 2: 50Vdc Reverse Polarity**

DC Feed Voltage: 50 Vdc, DC Feed Resistance: 300 Ohms, DC Feed Polarity: Reverse Polarity

DC Current Must Be &lt;= 0.6m A

**Measured DC Current: <0.1m A**DC Current Status Against Upper Limit: **Pass****Measured Resistance: >1M Ohms****Test Condition Status: Pass**

|   |   |  |          |             |    |
|---|---|--|----------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |  |          |             |    |
| <b>Clause 4.3, Polarity</b>   |   |  |          |             |    |
| ID  | 4296  | Job No                                     | 1000281  |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |  |          |             |    |
| Product   | XL-2029IDM;TK4060   |  |          |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |          |             |    |
| Purpose Of Test   | To check that the EUT Conforms to the requirement of ES203021-3 for both polarities of line feeding voltage |  |          |             |    |
|   |   |  |          |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |  |          |             |    |
| Operating State   |   |  |          |             |    |
| Test Class  |   |  | Engineer | Jack        |    |
| Date & Time   | Wed<br>09/Dec/2009<br>16:33:18  | Temp( )                                    | 25       | Humidity(%) | 56 |
|   |   | Tested With Auto Test Run (EUT Master): No |          |             |    |
|   |   |  |          |             |    |
| Test Result   |   |  |          |             |    |

**Overall Test Status: Pass**Test Condition:**Polarity**

EUT must conform to the requirements of ES203021-3 for both polarities of line feeding voltage

The PSTN21 ES203021-3 test procedures automatically switch line feeding polarity during testing. As such, if the EUT is found to comply with all other relevant requirements of ES203021-3 then click the status box below to indicate "Pass"

Status**Pass**

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.4.1, DC Resistance**

|                 |   |  |         |              |    |
|-----------------|---|--|---------|--------------|----|
| ID              | 4297  | Job No                                     | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |              |    |
| Product         | XL-2029IDM;TK4060   |  |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |              |    |
| Purpose Of Test | To check whether the EUT presents a resistance of at least 4 MOhm when tested at 25Vdc, 50Vdc and 100Vdc in the quiescent state |  |         |              |    |
|                 |   |  |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |  |         |              |    |
| Operating State |   |  |         |              |    |
| Test Class      | Formal Test   | Engineer                                   | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:31:49  | Temp ( )                                   | 25      | Humidity (%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |              |    |
|                 |   |  |         |              |    |
| Test Result     |   |  |         |              |    |

**Overall Test Status: Pass****Test Condition 1, Test Condition 1: 25Vdc Normal Polarity**

DC Feed Voltage: 25 Vdc, Feed Voltage Polarity: Normal Polarity

Resistance Must Be  $\geq$  4M Ohms**Measured Resistance: 5.837M Ohms****Test Condition Status Pass****Test Condition 2, Test Condition 2: 25Vdc Reverse Polarity**

DC Feed Voltage: 25 Vdc, Feed Voltage Polarity: Reverse Polarity

Resistance Must Be  $\geq$  4M Ohms**Measured Resistance: 5.818M Ohms****Test Condition Status Pass****Test Condition 3, Test Condition 3: 50Vdc Normal Polarity**

DC Feed Voltage: 50 Vdc, Feed Voltage Polarity: Normal Polarity

Resistance Must Be  $\geq$  4M Ohms**Measured Resistance: 5.053M Ohms****Test Condition Status Pass****Test Condition 4, Test Condition 4: 50Vdc Reverse Polarity**

DC Feed Voltage: 50 Vdc, Feed Voltage Polarity: Reverse Polarity

Resistance Must Be  $\geq$  4M Ohms**Measured Resistance: 5.048M Ohms****Test Condition Status Pass****Test Condition 5, Test Condition 5: 100Vdc Normal Polarity**

DC Feed Voltage: 100 Vdc, Feed Voltage Polarity: Normal Polarity

Resistance Must Be  $\geq$  4M Ohms**Measured Resistance: 4.703M Ohms****Test Condition Status Pass****Test Condition 6, Test Condition 6: 100Vdc Reverse Polarity**

DC Feed Voltage: 100 Vdc, Feed Voltage Polarity: Reverse Polarity

Resistance Must Be  $\geq$  4M Ohms**Measured Resistance: 4.702M Ohms****Test Condition Status Pass**



Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.4.1, DC Resistance**

|                        |   |                     |         |
|------------------------|---|---------------------|---------|
| <b>ID</b>              | 4297  | <b>Job No</b>       | 1000281 |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd  |                     |         |
| <b>Product</b>         | XL-2029IDM;TK4060   |                     |         |
| <b>Specification</b>   | ETSI ES 203 021-3 v2.1.2 January 2006   |                     |         |
| <b>Purpose Of Test</b> | To check whether the EUT presents a resistance of at least 4 MOhm when tested at 25Vdc, 50Vdc and 100Vdc in the quiescent state |                     |         |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00   |                     |         |
| <b>Operating State</b> |   |                     |         |
| <b>Test Class</b>      | Formal Test   | <b>Engineer</b>     | Jack    |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>17:31:49  | <b>Temp ( )</b>     | 25      |
|                        |   | <b>Humidity (%)</b> | 56      |

**Test Details**

## TestCondition 1

Test Description Test Condition 1: 25Vdc Normal Polarity  
 DC Feed Voltage 25 Vdc  
 DC Current limit 1 mAdc  
 Feed Voltage Polarity Normal Polarity  
 Feed Resistance 20k Ohms  
 Time Waited Before Making Measurement 30 Seconds  
 Measurement Taken For 1 Seconds  
 Test Result Must Be Greater Than 4M Ohms  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured DC Resistance Within 25% Of Test Limit: 1.6%

## TestCondition 2

Test Description Test Condition 2: 25Vdc Reverse Polarity  
 DC Feed Voltage 25 Vdc  
 DC Current limit 1 mAdc  
 Feed Voltage Polarity Reverse Polarity  
 Feed Resistance 20k Ohms  
 Time Waited Before Making Measurement 30 Seconds  
 Measurement Taken For 1 Seconds  
 Test Result Must Be Greater Than 4M Ohms  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured DC Resistance Within 25% Of Test Limit: 1.6%

## TestCondition 3

Test Description Test Condition 3: 50Vdc Normal Polarity  
 DC Feed Voltage 50 Vdc  
 DC Current limit 1 mAdc  
 Feed Voltage Polarity Normal Polarity  
 Feed Resistance 20k Ohms  
 Time Waited Before Making Measurement 30 Seconds  
 Measurement Taken For 1 Seconds  
 Test Result Must Be Greater Than 4M Ohms  
 Measurement Uncertainty Information

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.4.1, DC Resistance**

|                        |   |                       |                           |
|------------------------|---|-----------------------|---------------------------|
| <b>ID</b>              | 4297  | <b>Job No</b>         | 1000281                   |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd  |                       |                           |
| <b>Product</b>         | XL-2029IDM;TK4060   |                       |                           |
| <b>Specification</b>   | ETSI ES 203 021-3 v2.1.2 January 2006   |                       |                           |
| <b>Purpose Of Test</b> | To check whether the EUT presents a resistance of at least 4 MOhm when tested at 25Vdc, 50Vdc and 100Vdc in the quiescent state |                       |                           |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00   |                       |                           |
| <b>Operating State</b> |   |                       |                           |
| <b>Test Class</b>      | Formal Test   | <b>Engineer</b>       | Jack                      |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>17:31:49  | <b>Temp ( )</b><br>25 | <b>Humidity (%)</b><br>56 |
| <b>Test Details</b>    |   |                       |                           |

Expanded Uncertainty, Coverage Factor K=2

Measured DC Resistance Within 25% Of Test Limit: 1.6%

## TestCondition 4

Test Description Test Condition 4: 50Vdc Reverse Polarity

DC Feed Voltage 50 Vdc

DC Current limit 1 mAde

Feed Voltage Polarity Reverse Polarity

Feed Resistance 20k Ohms

Time Waited Before Making Measurement 30 Seconds

Measurement Taken For 1 Seconds

Test Result Must Be Greater Than 4M Ohms

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured DC Resistance Within 25% Of Test Limit: 1.6%

## TestCondition 5

Test Description Test Condition 5: 100Vdc Normal Polarity

DC Feed Voltage 100 Vdc

DC Current limit 1 mAde

Feed Voltage Polarity Normal Polarity

Feed Resistance 20k Ohms

Time Waited Before Making Measurement 30 Seconds

Measurement Taken For 1 Seconds

Test Result Must Be Greater Than 4M Ohms

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured DC Resistance Within 25% Of Test Limit: 1.6%

## TestCondition 6

Test Description Test Condition 6: 100Vdc Reverse Polarity

DC Feed Voltage 100 Vdc

DC Current limit 1 mAde

Feed Voltage Polarity Reverse Polarity

Feed Resistance 20k Ohms

Time Waited Before Making Measurement 30 Seconds

Measurement Taken For 1 Seconds

Test Result Must Be Greater Than 4M Ohms

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.4.1, DC Resistance**

|                        |   |                       |                           |
|------------------------|---|-----------------------|---------------------------|
| <b>ID</b>              | 4297  | <b>Job No</b>         | 1000281                   |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd  |                       |                           |
| <b>Product</b>         | XL-2029IDM;TK4060   |                       |                           |
| <b>Specification</b>   | ETSI ES 203 021-3 v2.1.2 January 2006   |                       |                           |
| <b>Purpose Of Test</b> | To check whether the EUT presents a resistance of at least 4 MOhm when tested at 25Vdc, 50Vdc and 100Vdc in the quiescent state |                       |                           |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00   |                       |                           |
| <b>Operating State</b> |   |                       |                           |
| <b>Test Class</b>      | Formal Test   | <b>Engineer</b>       | Jack                      |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>17:31:49  | <b>Temp ( )</b><br>25 | <b>Humidity (%)</b><br>56 |

**Test Details**

Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
Measured DC Resistance Within 25% Of Test Limit: 1.6%

|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.4.2.1, Impedance In The Quiescent State</b>             |   |          |         |             |    |
| ID  | 4298  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test   | To determine whether the EUT presents an impedance in the quiescent state during ringing within the specified range |          |         |             |    |
|   |   |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State   |   |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>17:42:56  | Temp( )  | 25      | Humidity(%) | 56 |
| Tested With Auto Test Run (EUT Master): No                          |   |          |         |             |    |
|   |   |          |         |             |    |
| <b>Test Result</b>  |   |          |         |             |    |

Overall Test Status: Pass

**Test Condition 1, Test Condition 1: 25Hz 30Vrms Ringing**

Ring Signal Voltage: 30 Vrms, Ring Signal Frequency: 25 Hz  
 DC Feed Voltage: 50 Vdc, Feed Resistance 2.05k Ohms, Feed Polarity: Normal Polarity

Magnitude Impedance Must Be &gt;= 16k Ohms

**Measured Magnitude Impedance: 20.44k Ohms**Magnitude Impedance Status: Pass**Measured Capacitance A To B: 0.8023uF****Measured Real Part Of Impedance A To B: 19.23k Ohms**Test Condition Status: Pass**Test Condition 2, Test Condition 2: 50Hz 30Vrms Ringing**

Ring Signal Voltage: 30 Vrms, Ring Signal Frequency: 50 Hz  
 DC Feed Voltage: 50 Vdc, Feed Resistance 2.05k Ohms, Feed Polarity: Normal Polarity

Magnitude Impedance Must Be &gt;= 16k Ohms

**Measured Magnitude Impedance: 18.55k Ohms**Magnitude Impedance Status: Pass**Measured Capacitance A To B: 0.8287uF****Measured Real Part Of Impedance A To B: 17.95k Ohms**Test Condition Status: Pass

|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.4.2.1, Impedance In The Quiescent State</b>             |   |          |         |             |    |
| ID  | 4298  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test   | To determine whether the EUT presents an impedance in the quiescent state during ringing within the specified range |          |         |             |    |
|   |   |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State   |   |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>17:42:56  | Temp( )  | 25      | Humidity(%) | 56 |
|   |   |          |         |             |    |
| <b>Test Details</b>   |   |          |         |             |    |

## TestCondition 1

Test Description Test Condition 1: 25Hz 30Vrms Ringing  
 DC Feed Voltage 50 Vdc  
 Feed Voltage Polarity Normal Polarity  
 Feed Resistance 2.05k Ohms  
 Ring Signal Voltage 30 Vrms  
 Ring Signal Frequency 25 Hz  
 Ring Signal Calibrated At: EUT  
 Maximum Ring Voltage Applied For Calibration: 90 Vrms  
 Time Waited Before Making Measurement 5 Seconds  
 Overall Impedance Must Be >= 16k Ohms  
 Test Lower Limit = 1  
 Test Upper Limit = 0  
 Test Lower Limit For Capacitance = 0  
 Test Upper Limit For Capacitance = 0  
 Test Lower Limit For Real Component = 0  
 Test Upper Limit For Real Component = 0  
 Type Of REN Test TIA-EIA-IS-968 Type A REN  
 REN Lower Limit 0  
 Test Lower Limit 0 (0=Not Test, 1=Test)  
 REN Upper Limit 0  
 Test Upper Limit 0 (0=Not Test, 1=Test)  
 Report Worst Case REN For All Test Conditions 0 (1=Yes, 0=No)  
 Worst Case REN Based On High Value  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Overall Impedance: 1.30%  
 Capacitance A To B: 5.15%  
 Resistive Component A to B: 3.41%

## TestCondition 2

Test Description Test Condition 2: 50Hz 30Vrms Ringing  
 DC Feed Voltage 50 Vdc  
 Feed Voltage Polarity Normal Polarity  
 Feed Resistance 2.05k Ohms  
 Ring Signal Voltage 30 Vrms  
 Ring Signal Frequency 50 Hz

|   |   |                 |         |                    |    |  |  |  |
|---|---|-----------------|---------|--------------------|----|--|--|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |                 |         |                    |    |  |  |  |
| <b>Clause 4.4.2.1, Impedance In The Quiescent State</b>             |   |                 |         |                    |    |  |  |  |
| <b>ID</b>   | 4298  | <b>Job No</b>   | 1000281 |                    |    |  |  |  |
| <b>Customer</b>   | Xingtel Xiamen Electronics Co.,Ltd  |                 |         |                    |    |  |  |  |
| <b>Product</b>  | XL-2029IDM;TK4060   |                 |         |                    |    |  |  |  |
| <b>Specification</b>  | ETSI ES 203 021-3 v2.1.2 January 2006   |                 |         |                    |    |  |  |  |
| <b>Purpose Of Test</b>  | To determine whether the EUT presents an impedance in the quiescent state during ringing within the specified range |                 |         |                    |    |  |  |  |
|   |   |                 |         |                    |    |  |  |  |
| <b>EUT Details</b>  | Sample Number: 0001, Modification State: 00   |                 |         |                    |    |  |  |  |
| <b>Operating State</b>  |   |                 |         |                    |    |  |  |  |
| <b>Test Class</b>   | Formal Test   | <b>Engineer</b> | Jack    |                    |    |  |  |  |
| <b>Date &amp; Time</b>  | Wed<br>09/Dec/2009<br>17:42:56  | <b>Temp( )</b>  | 25      | <b>Humidity(%)</b> | 56 |  |  |  |
|   |   |                 |         |                    |    |  |  |  |
| <b>Test Details</b>   |   |                 |         |                    |    |  |  |  |

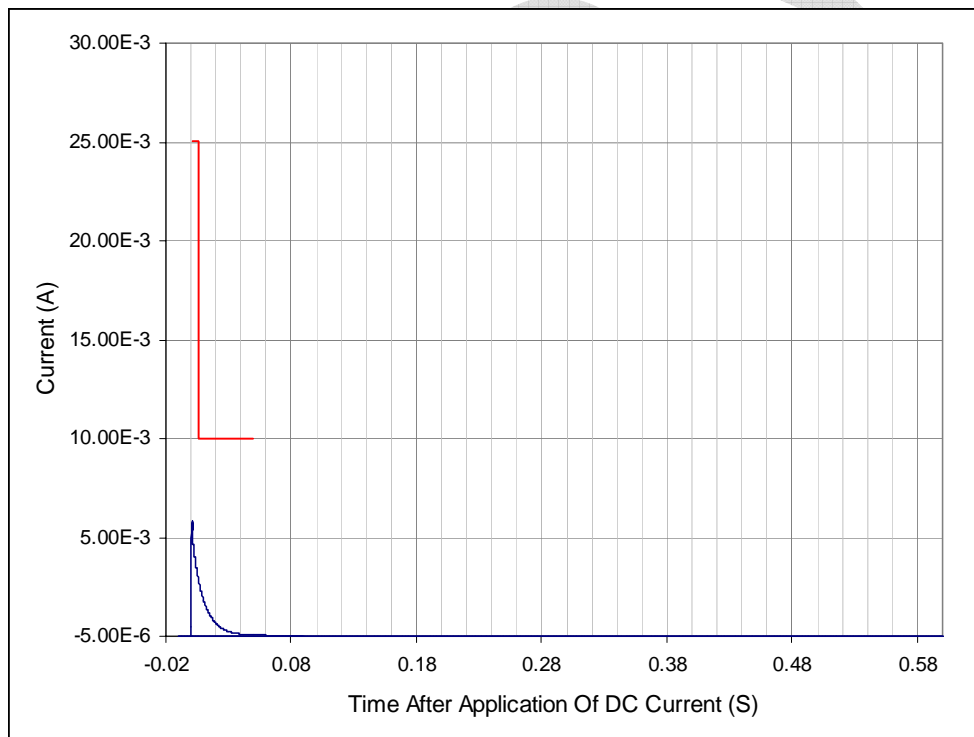
Ring Signal Calibrated At: EUT  
Maximum Ring Voltage Applied For Calibration: 90 Vrms  
Time Waited Before Making Measurement 5 Seconds  
Overall Impedance Must Be >= 16k Ohms  
Test Lower Limit = 1  
Test Upper Limit = 0  
Test Lower Limit For Capacitance = 0  
Test Upper Limit For Capacitance = 0  
Test Lower Limit For Real Component = 0  
Test Upper Limit For Real Component = 0  
Type Of REN Test TIA-EIA-IS-968 Type A REN  
REN Lower Limit 0  
Test Lower Limit 0 (0=Not Test, 1=Test)  
REN Upper Limit 0  
Test Upper Limit 0 (0=Not Test, 1=Test)  
Report Worst Case REN For All Test Conditions 0 (1=Yes, 0=No)  
Worst Case REN Based On High Value  
Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
Overall Impedance: 1.31%  
Capacitance A To B: 7.26%  
Resistive Component A to B: 3.05%

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.4.2.2, Transient Response In The Quiescent State**

|  |   |               |                   |
|--|---|---------------|-------------------|
| ID   | 4299  | Job No        | 1000281           |
| Customer                                   | Xingtel Xiamen Electronics Co.,Ltd  |               |                   |
| Product                                    | XL-2029IDM;TK4060   |               |                   |
| Specification                              | ETSI ES 203 021-3 v2.1.2 January 2006                                       |               |                   |
| Purpose Of Test                            | To check the transient DC characteristics of the EUT in the quiescent state |               |                   |
| EUT Details                                | Sample Number: 0001, Modification State: 00                                 |               |                   |
| Operating State                            |   |               |                   |
| Test Class                                 | Formal Test   | Engineer      | Jack              |
| Date & Time                                | Wed<br>09/Dec/2009<br>17:49:46  | Temp( )<br>25 | Humidity(%)<br>56 |
| Tested With Auto Test Run (EUT Master): No |   |               |                   |
| Test Result                                |   |               |                   |

Overall Test Status: Pass

**Test Condition 1, Test Condition 1: 60Vdc Normal Polarity**

DC Feed Voltage: 60 Vdc, Feed Resistance: 200 Ohms, Feed Polarity: 0  
Status Against Upper Limits: **Pass**, **Test Condition Status: Pass**

**Test Condition 2, Test Condition 2: 60Vdc Reverse Polarity**

DC Feed Voltage: 60 Vdc, Feed Resistance: 200 Ohms, Feed Polarity: 1  
Status Against Upper Limits: **Pass**, **Test Condition Status: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.4.2.2, Transient Response In The Quiescent State**

|                        |   |                      |                          |
|------------------------|---|----------------------|--------------------------|
| <b>ID</b>              | 4299  | <b>Job No</b>        | 1000281                  |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd  |                      |                          |
| <b>Product</b>         | XL-2029IDM;TK4060   |                      |                          |
| <b>Specification</b>   | ETSI ES 203 021-3 v2.1.2 January 2006                                       |                      |                          |
| <b>Purpose Of Test</b> | To check the transient DC characteristics of the EUT in the quiescent state |                      |                          |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00                                 |                      |                          |
| <b>Operating State</b> |   |                      |                          |
| <b>Test Class</b>      | Formal Test   | <b>Engineer</b>      | Jack                     |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>17:49:46  | <b>Temp( )</b><br>25 | <b>Humidity(%)</b><br>56 |
| <b>Test Details</b>    |   |                      |                          |

## TestCondition 1

Test Description: Test Condition 1: 60Vdc Normal Polarity

DC Feed Voltage: 60 Vdc

Feed Voltage Polarity: 0

Feed Resistance: 200 Ohms

Time Waited Before Making Measurement: 60 Seconds

Whilst In The Idle State EUT Is Short Circuited

Use Lower Limits: 0

Use Upper Limits: 1

For Lower Test Limits, Please see test results

For Upper Test Limits, Please see test results

Data To Capture Before Connecting EUT: 10m S

Data To Capture After Connecting EUT: 90m S

Trigger Threshold: 100u A

Trigger Slope: Positive

Trigger Validation Time: 0 Secs

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured DC current within 20% of maximum Upper Limit: 1.66%

Measured DC Current within 20% of minimum Upper Limit: 1.68%

Measured DC current within 20% of maximum Lower Limit: N/A%

Measured DC Current within 20% of minimum Lower Limit: N/A%

Transient Timing: 10.5uSecs

## TestCondition 2

Test Description: Test Condition 2: 60Vdc Reverse Polarity

DC Feed Voltage: 60 Vdc

Feed Voltage Polarity: 1

Feed Resistance: 200 Ohms

Time Waited Before Making Measurement: 60 Seconds

Whilst In The Idle State EUT Is Short Circuited

Use Lower Limits: 0

Use Upper Limits: 1

For Lower Test Limits, Please see test results

For Upper Test Limits, Please see test results

Data To Capture Before Connecting EUT: 10m S

Data To Capture After Connecting EUT: 90m S

Trigger Threshold: 100u A



|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.4.2.2, Transient Response In The Quiescent State</b>    |   |          |         |             |    |
| ID  | 4299  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                                       |          |         |             |    |
| Purpose Of Test   | To check the transient DC characteristics of the EUT in the quiescent state |          |         |             |    |
|   |   |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                                 |          |         |             |    |
| Operating State   |   |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>17:49:46  | Temp( )  | 25      | Humidity(%) | 56 |
|   |   |          |         |             |    |
| <b>Test Details</b>   |   |          |         |             |    |

Trigger Slope: Positive  
Trigger Validation Time: 0 Secs  
Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
Measured DC current within 20% of maximum Upper Limit: 1.66%  
Measured DC Current within 20% of minimum Upper Limit: 1.68%  
Measured DC current within 20% of maximum Lower Limit: N/A%  
Measured DC Current within 20% of minimum Lower Limit: N/A%  
Transient Timing: 10.5uSecs

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.4.2.3, DC Current During Ringing**

|   |   |                      |                          |
|---|---|----------------------|--------------------------|
| <b>ID</b>   | 4300  | <b>Job No</b>        | 1000281                  |
| <b>Customer</b>                                   | Xingtel Xiamen Electronics Co.,Ltd                        |                      |                          |
| <b>Product</b>                                    | XL-2029IDM;TK4060   |                      |                          |
| <b>Specification</b>                              | ETSI ES 203 021-3 v2.1.2 January 2006                     |                      |                          |
| <b>Purpose Of Test</b>                            | To determine if the DC component of ringing exceeds 0.6mA |                      |                          |
| <b>EUT Details</b>                                | Sample Number: 0001, Modification State: 00               |                      |                          |
| <b>Operating State</b>                            |   |                      |                          |
| <b>Test Class</b>                                 | Formal Test   | <b>Engineer</b>      | Jack                     |
| <b>Date &amp; Time</b>                            | Wed<br>09/Dec/2009<br>17:56:38                            | <b>Temp( )</b><br>25 | <b>Humidity(%)</b><br>56 |
| <b>Tested With Auto Test Run (EUT Master): No</b> |   |                      |                          |
| <b>Test Result</b>                                |   |                      |                          |

**Overall Test Status: Pass****Test Condition 1, Test Condition 1: 25Hz 90Vrms Ringing, 60Vdc Normal Polarity**

DC Feed Voltage: 60 Vdc, DC Feed Resistance: 850 Ohms, DC Feed Polarity: Normal Polarity  
 Ring Signal Voltage: 90 Vrms, Ring Signal Frequency: 25 Hz

DC Current Must Be &lt;= 0.6m A

**Measured DC Current: <0.1m A**DC Current Status Against Upper Limit: **Pass****Measured Resistance: >1M Ohms****Test Condition Status: Pass****Test Condition 2, Test Condition 2: 25Hz 90Vrms Ringing, 60Vdc Reverse Polarity**

DC Feed Voltage: 60 Vdc, DC Feed Resistance: 850 Ohms, DC Feed Polarity: Reverse Polarity  
 Ring Signal Voltage: 90 Vrms, Ring Signal Frequency: 25 Hz

DC Current Must Be &lt;= 0.6m A

**Measured DC Current: <0.1m A**DC Current Status Against Upper Limit: **Pass****Measured Resistance: >1M Ohms****Test Condition Status: Pass****Test Condition 3, Test Condition 3: 50Hz 90Vrms Ringing, 60Vdc, Normal Polarity**

DC Feed Voltage: 60 Vdc, DC Feed Resistance: 850 Ohms, DC Feed Polarity: Normal Polarity  
 Ring Signal Voltage: 90 Vrms, Ring Signal Frequency: 50 Hz

DC Current Must Be &lt;= 0.6m A

**Measured DC Current: <0.1m A**DC Current Status Against Upper Limit: **Pass****Measured Resistance: >1M Ohms****Test Condition Status: Pass****Test Condition 4, Test Condition 4: 50Hz 90Vrms Ringing, 60Vdc Reverse Polarity**

DC Feed Voltage: 60 Vdc, DC Feed Resistance: 850 Ohms, DC Feed Polarity: Reverse Polarity

|   |   |  |         |             |    |  |  |  |  |  |
|---|---|--|---------|-------------|----|--|--|--|--|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |  |         |             |    |  |  |  |  |  |
| <b>Clause 4.4.2.3, DC Current During Ringing</b>                    |   |  |         |             |    |  |  |  |  |  |
| ID  | 4300  | Job No                                     | 1000281 |             |    |  |  |  |  |  |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd                        |  |         |             |    |  |  |  |  |  |
| Product   | XL-2029IDM;TK4060   |  |         |             |    |  |  |  |  |  |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                     |  |         |             |    |  |  |  |  |  |
| Purpose Of Test   | To determine if the DC component of ringing exceeds 0.6mA |  |         |             |    |  |  |  |  |  |
|   |   |  |         |             |    |  |  |  |  |  |
| EUT Details   | Sample Number: 0001, Modification State: 00               |  |         |             |    |  |  |  |  |  |
| Operating State   |   |  |         |             |    |  |  |  |  |  |
| Test Class  | Formal Test   | Engineer                                   | Jack    |             |    |  |  |  |  |  |
| Date & Time   | Wed<br>09/Dec/2009<br>17:56:38                            | Temp( )                                    | 25      | Humidity(%) | 56 |  |  |  |  |  |
|   |   | Tested With Auto Test Run (EUT Master): No |         |             |    |  |  |  |  |  |
|   |   |  |         |             |    |  |  |  |  |  |
| Test Result   |   |  |         |             |    |  |  |  |  |  |

**Overall Test Status: Pass**

Ring Signal Voltage: 90 Vrms, Ring Signal Frequency: 50 Hz

DC Current Must Be &lt;= 0.6m A

**Measured DC Current: <0.1m A**DC Current Status Against Upper Limit: **Pass****Measured Resistance: >1M Ohms****Test Condition Status: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.4.2.3, DC Current During Ringing**

|                 |   |          |    |             |         |  |
|-----------------|---|----------|----|-------------|---------|--|
| ID              | 4300  | Job No   |    |             | 1000281 |  |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd                        |          |    |             |         |  |
| Product         | XL-2029IDM;TK4060   |          |    |             |         |  |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                     |          |    |             |         |  |
| Purpose Of Test | To determine if the DC component of ringing exceeds 0.6mA |          |    |             |         |  |
|                 |   |          |    |             |         |  |
| EUT Details     | Sample Number: 0001, Modification State: 00               |          |    |             |         |  |
| Operating State |   |          |    |             |         |  |
| Test Class      | Formal Test   | Engineer |    | Jack        |         |  |
| Date & Time     | Wed<br>09/Dec/2009<br>17:56:38                            | Temp( )  | 25 | Humidity(%) | 56      |  |
|                 |   |          |    |             |         |  |
| Test Details    |   |          |    |             |         |  |

**Test Details**

## TestCondition 1

Test Description Test Condition 1: 25Hz 90Vrms Ringing, 60Vdc Normal Polarity  
 Ring Signal Voltage 90 Vrms  
 Ring Signal Frequency 25 Hz  
 DC Feed Voltage 60 Vdc  
 Feed Resistance 850 Ohms  
 DC Feed Voltage Polarity Normal Polarity  
 After Auto-ranging measurement system wait 5 Secs  
 Ringing Signal Applied For 0.4 Secs Before Making Measurements  
 Measurements taken over 10 complete cycles of ringing signal  
 Trigger Threshold 100u A  
 Trigger Slope Positive  
 Trigger Validation Time 0 Secs  
 Test Lower Limit For DC Current: 0  
 DC Current Must Be  $\leq 0.6\text{mA}$   
 Test Upper Limit For DC Current: 1  
 Test Lower Limit For DC Resistance: 0 Ohms  
 Test Upper Limit For DC Resistance: 0  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 DC Current & Resistance: Measurement Out Of Range

## TestCondition 2

Test Description Test Condition 2: 25Hz 90Vrms Ringing, 60Vdc Reverse Polarity  
 Ring Signal Voltage 90 Vrms  
 Ring Signal Frequency 25 Hz  
 DC Feed Voltage 60 Vdc  
 Feed Resistance 850 Ohms  
 DC Feed Voltage Polarity Reverse Polarity  
 After Auto-ranging measurement system wait 5 Secs  
 Ringing Signal Applied For 0.4 Secs Before Making Measurements  
 Measurements taken over 10 complete cycles of ringing signal  
 Trigger Threshold 100u A  
 Trigger Slope Positive  
 Trigger Validation Time 0 Secs  
 Test Lower Limit For DC Current: 0  
 DC Current Must Be  $\leq 0.6\text{mA}$   
 Test Upper Limit For DC Current: 1  
 Test Lower Limit For DC Resistance: 0 Ohms

|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.4.2.3, DC Current During Ringing</b>                    |   |          |         |             |    |
| ID  | 4300  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd                        |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                     |          |         |             |    |
| Purpose Of Test   | To determine if the DC component of ringing exceeds 0.6mA |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00               |          |         |             |    |
| Operating State   |   |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>17:56:38                            | Temp( )  | 25      | Humidity(%) | 56 |
| <b>Test Details</b>   |   |          |         |             |    |

Test Upper Limit For DC Resistance: 0  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 DC Current & Resistance: Measurement Out Of Range  
 TestCondition 3

Test Description Test Condition 3: 50Hz 90Vrms Ringing, 60Vdc, Normal Polarity  
 Ring Signal Voltage 90 Vrms  
 Ring Signal Frequency 50 Hz  
 DC Feed Voltage 60 Vdc  
 Feed Resistance 850 Ohms  
 DC Feed Voltage Polarity Normal Polarity  
 After Auto-ranging measurement system wait 5 Secs  
 Ringing Signal Applied For 0.4 Secs Before Making Measurements  
 Measurements taken over 10 complete cycles of ringing signal  
 Trigger Threshold 100u A  
 Trigger Slope Positive  
 Trigger Validation Time 0 Secs  
 Test Lower Limit For DC Current: 0  
 DC Current Must Be <= 0.6m A  
 Test Upper Limit For DC Current: 1  
 Test Lower Limit For DC Resistance: 0 Ohms  
 Test Upper Limit For DC Resistance: 0  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 DC Current & Resistance: Measurement Out Of Range

TestCondition 4

Test Description Test Condition 4: 50Hz 90Vrms Ringing, 60Vdc Reverse Polarity  
 Ring Signal Voltage 90 Vrms  
 Ring Signal Frequency 50 Hz  
 DC Feed Voltage 60 Vdc  
 Feed Resistance 850 Ohms  
 DC Feed Voltage Polarity Reverse Polarity  
 After Auto-ranging measurement system wait 5 Secs  
 Ringing Signal Applied For 0.4 Secs Before Making Measurements  
 Measurements taken over 10 complete cycles of ringing signal  
 Trigger Threshold 100u A  
 Trigger Slope Positive  
 Trigger Validation Time 0 Secs  
 Test Lower Limit For DC Current: 0

|   |   |                 |         |                    |    |  |  |  |
|---|---|-----------------|---------|--------------------|----|--|--|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |                 |         |                    |    |  |  |  |
| <b>Clause 4.4.2.3, DC Current During Ringing</b>                    |   |                 |         |                    |    |  |  |  |
| <b>ID</b>   | 4300  | <b>Job No</b>   | 1000281 |                    |    |  |  |  |
| <b>Customer</b>   | Xingtel Xiamen Electronics Co.,Ltd                        |                 |         |                    |    |  |  |  |
| <b>Product</b>  | XL-2029IDM;TK4060   |                 |         |                    |    |  |  |  |
| <b>Specification</b>  | ETSI ES 203 021-3 v2.1.2 January 2006                     |                 |         |                    |    |  |  |  |
| <b>Purpose Of Test</b>  | To determine if the DC component of ringing exceeds 0.6mA |                 |         |                    |    |  |  |  |
|   |   |                 |         |                    |    |  |  |  |
| <b>EUT Details</b>  | Sample Number: 0001, Modification State: 00               |                 |         |                    |    |  |  |  |
| <b>Operating State</b>  |   |                 |         |                    |    |  |  |  |
| <b>Test Class</b>   | Formal Test   | <b>Engineer</b> | Jack    |                    |    |  |  |  |
| <b>Date &amp; Time</b>  | Wed<br>09/Dec/2009<br>17:56:38                            | <b>Temp( )</b>  | 25      | <b>Humidity(%)</b> | 56 |  |  |  |
|   |   |                 |         |                    |    |  |  |  |
| <b>Test Details</b>   |   |                 |         |                    |    |  |  |  |

DC Current Must Be  $\leq 0.6\text{mA}$   
Test Upper Limit For DC Current: 1  
Test Lower Limit For DC Resistance: 0 Ohms  
Test Upper Limit For DC Resistance: 0  
Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
DC Current & Resistance: Measurement Out Of Range

|   |   |  |    |              |    |
|---|---|--|----|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |  |    |              |    |
| Clause 4.4.4, Impedance   |   |  |    |              |    |
| ID  | 4214  | Job No                                     |    | 1000273      |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |  |    |              |    |
| Product   | XL-2029IDM;TK4060   |  |    |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |    |              |    |
| Purpose Of Test   | To check whether the TE presents an impedance at 1Vrms in the quiescent state |  |    |              |    |
|   |   |  |    |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                                   |  |    |              |    |
| Operating State   | Quiescent state   |  |    |              |    |
| Test Class  | Formal Test   | Engineer                                   |    | Jack         |    |
| Date & Time   | Wed<br>09/Dec/2009<br>18:22:14  | Temp ( )                                   | 25 | Humidity (%) | 56 |
|   |   | Tested With Auto Test Run (EUT Master): No |    |              |    |
|   |   |  |    |              |    |
| Test Result   |   |  |    |              |    |

Overall Test Status: Pass

| Feed Vdc        | Frequency(kHz) | Polarity         | Applied | Result (kohms) | Limit (kohms) | Status |
|-----------------|----------------|------------------|---------|----------------|---------------|--------|
| 9               | 0.2 to 4.3     | Normal Polarity  | A-Leg   | >40            | 40            | Pass   |
| 9               | 0.2 to 4.3     | Reverse Polarity | B-Leg   | >40            | 40            | Pass   |
| 9               | 12             | Normal Polarity  | A-Leg   | >5             | 5             | Pass   |
| 9               | 12             | Reverse Polarity | B-Leg   | >5             | 5             | Pass   |
| 9               | 16             | Normal Polarity  | A-Leg   | >5             | 5             | Pass   |
| 9               | 16             | Reverse Polarity | B-Leg   | >5             | 5             | Pass   |
| Overall Result: |                |                  |         |                |               | Pass   |

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.5, Ringing Signal Detector Sensitivity**

|   |   |                       |                           |
|---|---|-----------------------|---------------------------|
| <b>ID</b>   | 4301  | <b>Job No</b>         | 1000281                   |
| <b>Customer</b>                                   | Xingtel Xiamen Electronics Co.,Ltd  |                       |                           |
| <b>Product</b>                                    | XL-2029IDM;TK4060   |                       |                           |
| <b>Specification</b>                              | ETSI ES 203 021-3 v2.1.2 January 2006   |                       |                           |
| <b>Purpose Of Test</b>                            | To determine the EUT's ability to respond as stated to ringing signals as specified by the supplier |                       |                           |
| <b>EUT Details</b>                                | Sample Number: 0001, Modification State: 00   |                       |                           |
| <b>Operating State</b>                            |   |                       |                           |
| <b>Test Class</b>                                 | Formal Test   | <b>Engineer</b>       | Jack                      |
| <b>Date &amp; Time</b>                            | Wed<br>09/Dec/2009<br>18:31:56  | <b>Temp ( )</b><br>25 | <b>Humidity (%)</b><br>56 |
| <b>Tested With Auto Test Run (EUT Master): No</b> |   |                       |                           |
| <b>Test Result</b>                                |   |                       |                           |

**Overall Test Status: Pass****Test Condition 1, Test Condition 1: 25Hz 30Vrms Ringing**

DC Feed Voltage: 50 Vdc, Feed Resistance 850 Ohms, Feed circuit polarity: Normal Polarity

ES 203021-3 Ring Signal 1: 25Hz, 30Vrms, 1 Sec On, 5 Sec Off

Type Of Test: Detection Of Ringing Signals

Type Of EUT: EUT With Manual Ring Detection Facility

**EUT Responded To Ringing 1.987 Secs After Start Of Ringing****Test Condition Status: Pass****Test Condition 2, Test Condition 2: 50Hz 30Vrms Ringing**

DC Feed Voltage: 50 Vdc, Feed Resistance 850 Ohms, Feed circuit polarity: Normal Polarity

ES 203021-3 Ring Signal 2: 50Hz, 30Vrms, 1 Sec On, 5 Sec Off

Type Of Test: Detection Of Ringing Signals

Type Of EUT: EUT With Manual Ring Detection Facility

**EUT Responded To Ringing 1.045 Secs After Start Of Ringing****Test Condition Status: Pass**



Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.5, Ringing Signal Detector Sensitivity**

|                        |   |                     |         |
|------------------------|---|---------------------|---------|
| <b>ID</b>              | 4301  | <b>Job No</b>       | 1000281 |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd  |                     |         |
| <b>Product</b>         | XL-2029IDM;TK4060   |                     |         |
| <b>Specification</b>   | ETSI ES 203 021-3 v2.1.2 January 2006   |                     |         |
| <b>Purpose Of Test</b> | To determine the EUT's ability to respond as stated to ringing signals as specified by the supplier |                     |         |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00   |                     |         |
| <b>Operating State</b> |   |                     |         |
| <b>Test Class</b>      | Formal Test   | <b>Engineer</b>     | Jack    |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>18:31:56  | <b>Temp ( )</b>     | 25      |
|                        |   | <b>Humidity (%)</b> | 56      |
| <b>Test Details</b>    |   |                     |         |

## TestCondition 1

Test Description Test Condition 1: 25Hz 30Vrms Ringing  
DC Feed Voltage: 50 Vdc  
Feed Resistance: 850 Ohms  
Feed Circuit Polarity: Normal Polarity  
Ring Signal: ES 203021-3 Ring Signal 1: 25Hz, 30Vrms, 1 Sec On, 5 Sec Off  
Calibrate Ring Signal At: EUT  
EUT Has Seized Line When DC Current Exceeds: 5m A  
Ring Signal ES 203021-3 Ring Signal 1: 25Hz, 30Vrms, 1 Sec On, 5 Sec Off  
Ring Signal Voltage: 30 Vrms  
Ring Signal Frequency: 25 Hz  
Ring Cadence Initial On 1: 0 Secs  
Ring Cadence Initial Off 1: 0 Secs  
Ring Cadence Initial On 2: 0 Secs  
Ring Cadence Initial Off 2: 0 Secs  
Ring Cadence Cyclic On 1: 1 Secs  
Ring Cadence Cyclic Off 1: 5 Secs  
Ring Cadence Cyclic On 2: 0 Secs  
Ring Cadence Cyclic Off 2: 0 Secs  
Ring Cadence Cyclic On 3: 0 Secs  
Ring Cadence Cyclic Off 3: 0 Secs  
Test Type: Detection Of Ringing Signals  
Test EUT Must Not Answer Limit: 0 (1 = Test, 0 = Do Not Test)  
Test EUT Must Answer Limit: 0 (1 = Test, 0 = No Test)  
Ringing Overload Test Application Time: 2 Secs  
Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
DC Current Crossing Off-Hook Threshold: 1.70%  
Timing On Detection Of EUT Going Off Hook: 0.12 Secs  
Generated Ring Signal Voltage: 0.58Vrms  
Generated Ring Signal Cadence Timing: 1.15%

## TestCondition 2

Test Description Test Condition 2: 50Hz 30Vrms Ringing  
DC Feed Voltage: 50 Vdc  
Feed Resistance: 850 Ohms  
Feed Circuit Polarity: Normal Polarity

|   |   |          |         |              |    |
|---|---|----------|---------|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |              |    |
| <b>Clause 4.5, Ringing Signal Detector Sensitivity</b>              |   |          |         |              |    |
| ID  | 4301  | Job No   | 1000281 |              |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |              |    |
| Product   | XL-2029IDM;TK4060   |          |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |              |    |
| Purpose Of Test   | To determine the EUT's ability to respond as stated to ringing signals as specified by the supplier |          |         |              |    |
|   |   |          |         |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |         |              |    |
| Operating State   |   |          |         |              |    |
| Test Class  | Formal Test   | Engineer | Jack    |              |    |
| Date & Time   | Wed<br>09/Dec/2009<br>18:31:56  | Temp ( ) | 25      | Humidity (%) | 56 |
|   |   |          |         |              |    |
| <b>Test Details</b>   |   |          |         |              |    |

Ring Signal: ES 203021-3 Ring Signal 2: 50Hz, 30Vrms, 1 Sec On, 5 Sec Off

Calibrate Ring Signal At: EUT

EUT Has Seized Line When DC Current Exceeds: 5m A

Ring Signal ES 203021-3 Ring Signal 2: 50Hz, 30Vrms, 1 Sec On, 5 Sec Off

Ring Signal Voltage: 30 Vrms

Ring Signal Frequency: 50 Hz

Ring Cadence Initial On 1: 0 Secs

Ring Cadence Initial Off 1: 0 Secs

Ring Cadence Initial On 2: 0 Secs

Ring Cadence Initial Off 2: 0 Secs

Ring Cadence Cyclic On 1: 1 Secs

Ring Cadence Cyclic Off 1: 5 Secs

Ring Cadence Cyclic On 2: 0 Secs

Ring Cadence Cyclic Off 2: 0 Secs

Ring Cadence Cyclic On 3: 0 Secs

Ring Cadence Cyclic Off 3: 0 Secs

Test Type: Detection Of Ringing Signals

Test EUT Must Not Answer Limit: 0 (1 = Test, 0 = Do Not Test)

Test EUT Must Answer Limit: 0 (1 = Test, 0 = No Test)

Ringing Overload Test Application Time: 2 Secs

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

DC Current Crossing Off-Hook Threshold: 1.70%

Timing On Detection Of EUT Going Off Hook: 0.12 Secs

Generated Ring Signal Voltage: 0.58Vrms

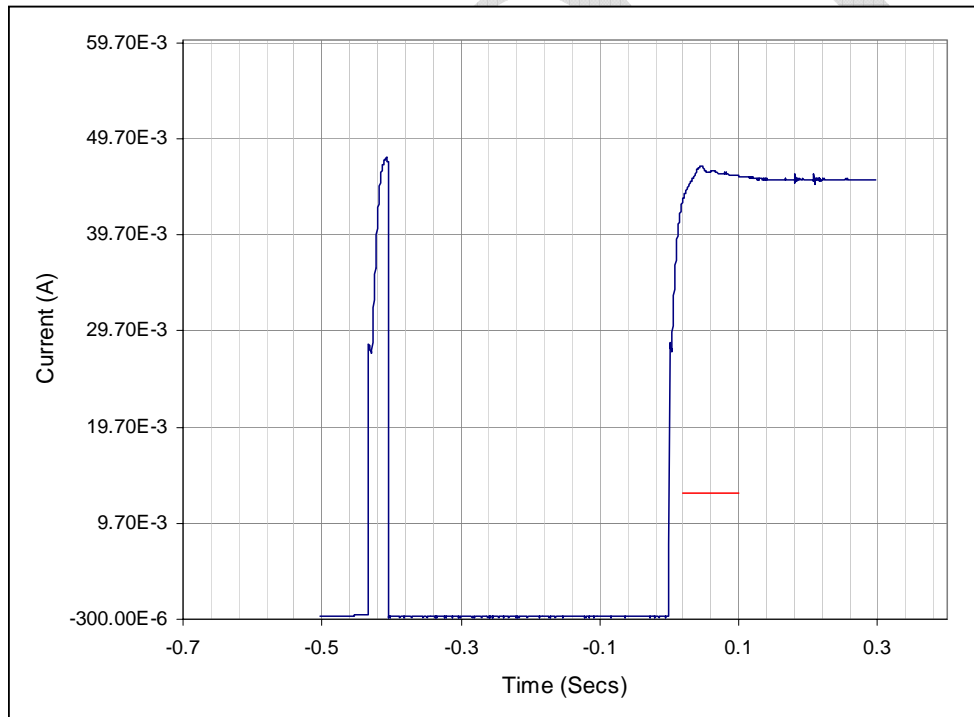
Generated Ring Signal Cadence Timing: 1.15%

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.1, Acceptance Of Breaks In The Loop In A Call Attempt**

|                 |   |  |         |              |    |
|-----------------|---|--|---------|--------------|----|
| ID              | 4302  | Job No                                     | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |              |    |
| Product         | XL-2029IDM;TK4060   |  |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |              |    |
| Purpose Of Test | To check that the EUT is capable of accepting short breaks in loop current during establishment of the loop state |  |         |              |    |
|                 |   |  |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |  |         |              |    |
| Operating State | Test Condition 1: Test Condition 1: 30mS Delay Before Break   |  |         |              |    |
| Test Class      | Formal Test   | Engineer                                   | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>18:42:51  | Temp ( )                                   | 25      | Humidity (%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |              |    |
|                 |   |  |         |              |    |
| Test Result     |   |  |         |              |    |

Overall Test Status: Pass

**Test Condition 1, Test Condition 1: 30mS Delay Before Break**

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 850 Ohms

Line Interruption Applied 30m Secs After EUT Seized Line

Duration Of Line Interruption: 0.4 Secs

EUT Is Off Hook When Loop Current Exceeds: 12.8m A

Measured Loop Current May Fall Outside Test Limits For A Total Aggregated Period Of 0.007 Secs

Loop Current Fell Below Lower Test Limits For A Total Aggregated Period Of: 0 Secs

Status Against Lower Test Limits: PassTest Condition Status Pass

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.1, Acceptance Of Breaks In The Loop In A Call Attempt**

|                 |   |          |         |              |    |
|-----------------|---|----------|---------|--------------|----|
| ID              | 4302  | Job No   | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |              |    |
| Product         | XL-2029IDM;TK4060   |          |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |              |    |
| Purpose Of Test | To check that the EUT is capable of accepting short breaks in loop current during establishment of the loop state |          |         |              |    |
|                 |   |          |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |          |         |              |    |
| Operating State | Test Condition 1: Test Condition 1: 30mS Delay Before Break   |          |         |              |    |
| Test Class      | Formal Test   | Engineer | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>18:42:51  | Temp ( ) | 25      | Humidity (%) | 56 |
|                 |   |          |         |              |    |
| Test Details    |   |          |         |              |    |

**Test Details**

## TestCondition 1

Test Description: Test Condition 1: 30mS Delay Before Break

DC Feed Voltage: 50 Vdc

Feed Resistance: 850 Ohms

Initial Feed Circuit Polarity Normal Polarity

EUT Is Off Hook When Loop Current Exceeds: 12.8m A

Delay Before Applying Line Interruption: 30m Secs

Duration Of Line Interruption: 0.4 Secs

After Applying Line Interruption Continue Measurements For A Further: 0.2 Secs

Loop Current Threshold For Restoration Of Loop: 0.2m A

Loop Current Is Allowed To Fall Outside Test Limits For A Maximum Period Of: 0.007 Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limts: , Please see test results

For Lower Test Limts: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.243%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.243%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

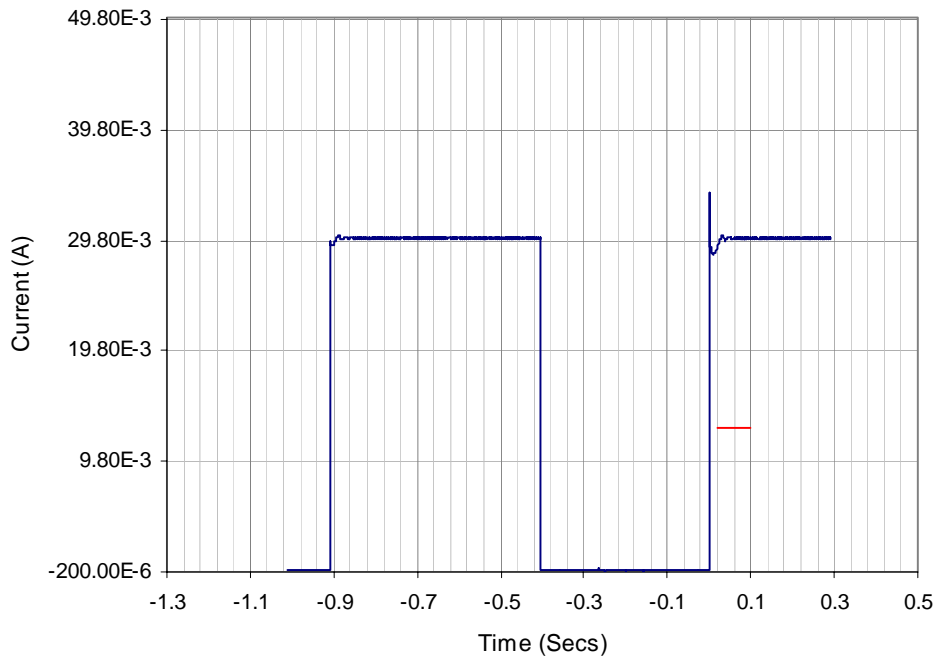
Measured Timing: 20.99uSecs

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.1, Acceptance Of Breaks In The Loop In A Call Attempt**

|                 |   |  |         |              |    |
|-----------------|---|--|---------|--------------|----|
| ID              | 4302  | Job No                                     | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |              |    |
| Product         | XL-2029IDM;TK4060   |  |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |              |    |
| Purpose Of Test | To check that the EUT is capable of accepting short breaks in loop current during establishment of the loop state |  |         |              |    |
|                 |   |  |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |  |         |              |    |
| Operating State | Test Condition 2: Test Condition 2: 500ms Delay Before Break  |  |         |              |    |
| Test Class      | Formal Test   | Engineer                                   |         | Jack         |    |
| Date & Time     | Wed<br>09/Dec/2009<br>18:42:51  | Temp ( )                                   | 25      | Humidity (%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |              |    |
|                 |   |  |         |              |    |
| Test Result     |   |  |         |              |    |

Overall Test Status: Pass

**Test Condition 2, Test Condition 2: 500ms Delay Before Break**

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 850 Ohms  
Line Interruption Applied 0.5 Secs After EUT Seized Line  
Duration Of Line Interruption: 0.4 Secs  
EUT Is Off Hook When Loop Current Exceeds: 12.8m A

Measured Loop Current May Fall Outside Test Limits For A Total Aggregated Period Of 0.007 Secs  
Loop Current Fell Below Lower Test Limits For A Total Aggregated Period Of: 0 Secs  
Status Against Lower Test Limits: Pass

**Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.1, Acceptance Of Breaks In The Loop In A Call Attempt**

|                 |   |          |         |              |    |
|-----------------|---|----------|---------|--------------|----|
| ID              | 4302  | Job No   | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |              |    |
| Product         | XL-2029IDM;TK4060   |          |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |              |    |
| Purpose Of Test | To check that the EUT is capable of accepting short breaks in loop current during establishment of the loop state |          |         |              |    |
|                 |   |          |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |          |         |              |    |
| Operating State | Test Condition 2: Test Condition 2: 500ms Delay Before Break  |          |         |              |    |
| Test Class      | Formal Test   | Engineer | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>18:42:51  | Temp ( ) | 25      | Humidity (%) | 56 |
|                 |   |          |         |              |    |
| Test Details    |   |          |         |              |    |

## TestCondition 2

Test Description: Test Condition 2: 500ms Delay Before Break

DC Feed Voltage: 50 Vdc

Feed Resistance: 850 Ohms

Initial Feed Circuit Polarity Normal Polarity

EUT Is Off Hook When Loop Current Exceeds: 12.8m A

Delay Before Applying Line Interruption: 0.5 Secs

Duration Of Line Interruption: 0.4 Secs

After Applying Line Interruption Continue Measurements For A Further: 0.2 Secs

Loop Current Threshold For Restoration Of Loop: 0.2m A

Loop Current Is Allowed To Fall Outside Test Limits For A Maximum Period Of: 0.007 Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limts: , Please see test results

For Lower Test Limts: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.243%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.243%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

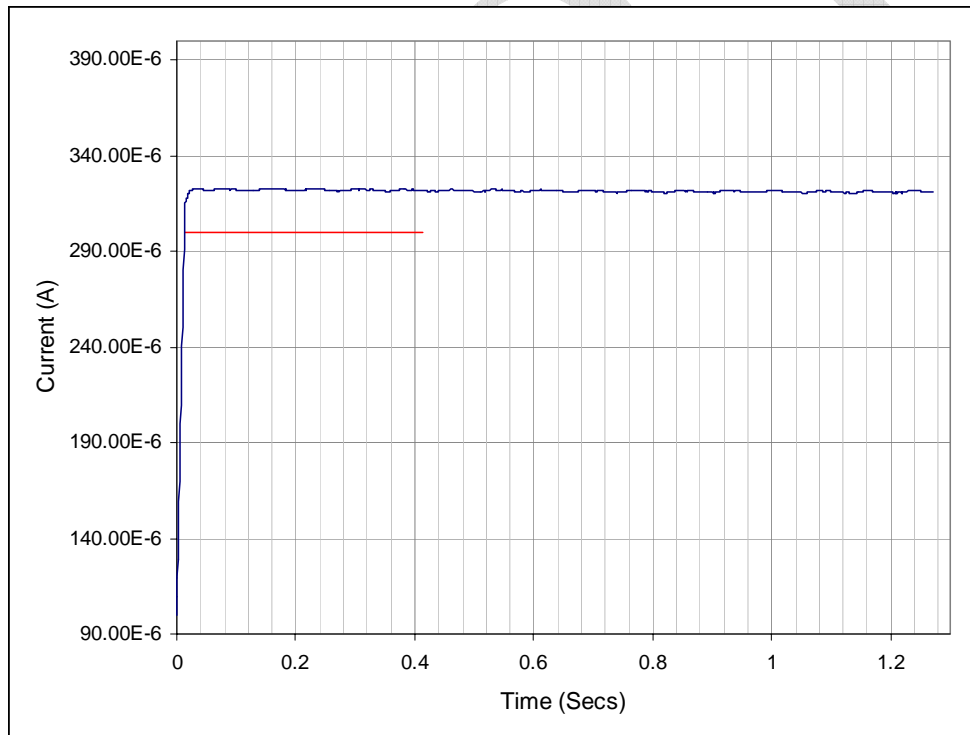
Measured Timing: 20.99uSecs

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |  |  |         |             |    |
|-----------------|--|--|---------|-------------|----|
| ID              | 4303   | Job No                                     | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |  |         |             |    |
| Product         | XL-2029IDM;TK4060  |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 o f ES 203021-3 |  |         |             |    |
|                 |  |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |  |         |             |    |
| Operating State | Test Condition 1: Test Condition 1: 50Vdc, 150kohm   |  |         |             |    |
| Test Class      | Formal Test  | Engineer                                   | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54   | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |             |    |
|                 |  |  |         |             |    |
| Test Result     |  |  |         |             |    |

Overall Test Status: Pass

**Test Condition 1, Test Condition 1: 50Vdc, 150kohm**

Measurement Type: On Hook To Off Hook

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 150k Ohms

Loop Current Must Be Within Test Limit Mask Within 0.4 Secs Of Reference Moment Of Line Seizure (t1-t0)

t1 - t0 (Time To Reach First Test Limit Point): 12.75m Secs

t1 - t0 (Time To Reach First Test Limit Point) Status: **Pass**

Loop Current Fell Below Lower Test Limit Mask For A Total Aggregated Period Of 0 Secs

Status Against Lower Test Limits: **Pass****Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4303  | Job No   | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State | Test Condition 1: Test Condition 1: 50Vdc, 150kohm  |          |         |             |    |
| Test Class      | Formal Test   | Engineer | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )  | 25      | Humidity(%) | 56 |
|                 |   |          |         |             |    |
| Test Details    |   |          |         |             |    |

**Test Details**

## TestCondition 1

Test Description: Test Condition 1: 50Vdc, 150kohm

DC Feed Voltage: 50 Vdc

Feed Resistance: 150k Ohms

Feed Polarity Normal Polarity

Type Of Test: On Hook To Off Hook

After Configuring Test Wait 60 Secs Before Starting Test

EUT Must Release Line Within 30 Secs Of A Power Failure

Reference Point For Line Seizure/Line Release 100u A

Reference Point For Line Seizure/Line Release Qualification Time: 5m Secs

EUT current must be within limit mask within 0.4 Secs Of Passing Reference Point For Line Seizure/Line Release

Apply Test Limit For EUT Current To Be Within Limit Mask: 1 (0 = Do Not Apply, 1 = Apply)

Qualification Time For EUT Current Being Within Limit Mask: 5m Secs

Maximum (aggregated) Time That EUT Current Is Allowed Outside Mask Limits: 7m Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limits: , Please see test results

For Lower Test Limits: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.191%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.191%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

Measured Timing: 0.105mSecs

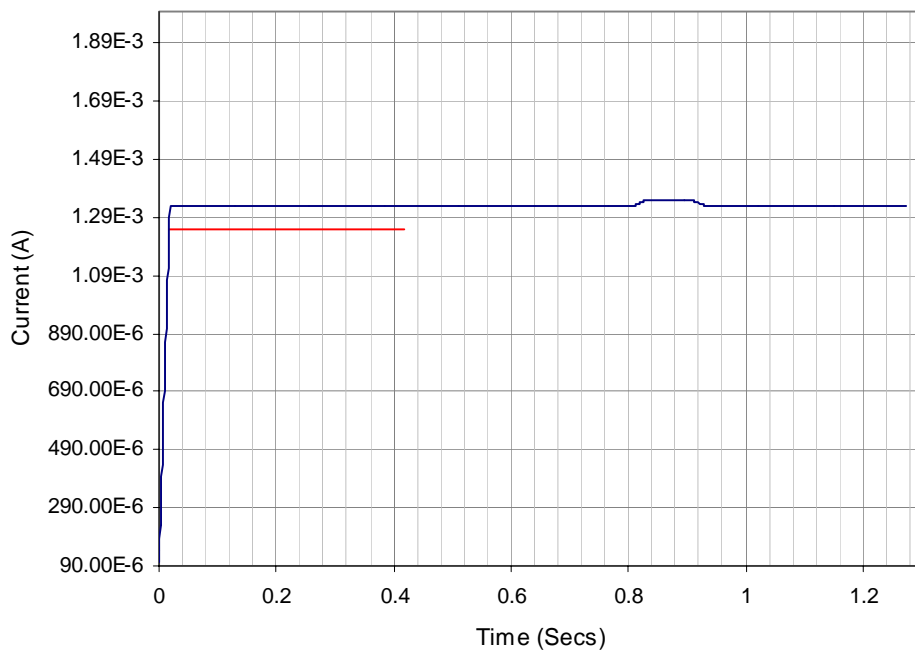


Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|   |   |                      |                          |
|---|---|----------------------|--------------------------|
| <b>ID</b>   | 4303  | <b>Job No</b>        | 1000273                  |
| <b>Customer</b>                                   | Xingtel Xiamen Electronics Co.,Ltd  |                      |                          |
| <b>Product</b>                                    | XL-2029IDM;TK4060   |                      |                          |
| <b>Specification</b>                              | ETSI ES 203 021-3 v2.1.2 January 2006   |                      |                          |
| <b>Purpose Of Test</b>                            | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |                      |                          |
| <b>EUT Details</b>                                | Sample Number: 0001, Modification State: 00   |                      |                          |
| <b>Operating State</b>                            | Test Condition 2: Test Condition 2: 50Vdc, 36kohms  |                      |                          |
| <b>Test Class</b>                                 | Formal Test   | <b>Engineer</b>      | Jack                     |
| <b>Date &amp; Time</b>                            | Wed<br>09/Dec/2009<br>17:16:54  | <b>Temp( )</b><br>25 | <b>Humidity(%)</b><br>56 |
| <b>Tested With Auto Test Run (EUT Master): No</b> |   |                      |                          |
| <b>Test Result</b>                                |   |                      |                          |

Overall Test Status: Pass

**Test Condition 2, Test Condition 2: 50Vdc, 36kohms**

Measurement Type: On Hook To Off Hook

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 36k Ohms

Loop Current Must Be Within Test Limit Mask Within 0.4 Secs Of Reference Moment Of Line Seizure (t1-t0)

t1 - t0 (Time To Reach First Test Limit Point): 17.29m Secs

t1 - t0 (Time To Reach First Test Limit Point) Status: **Pass**

Loop Current Fell Below Lower Test Limit Mask For A Total Aggregated Period Of 0 Secs

Status Against Lower Test Limits: **Pass****Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4303  | Job No   | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State | Test Condition 2: Test Condition 2: 50Vdc, 36kohms  |          |         |             |    |
| Test Class      | Formal Test   | Engineer | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )  | 25      | Humidity(%) | 56 |
|                 |   |          |         |             |    |
| Test Details    |   |          |         |             |    |

**Test Details**

## TestCondition 2

Test Description: Test Condition 2: 50Vdc, 36kohms

DC Feed Voltage: 50 Vdc

Feed Resistance: 36k Ohms

Feed Polarity Reverse Polarity

Type Of Test: On Hook To Off Hook

After Configuring Test Wait 60 Secs Before Starting Test

EUT Must Release Line Within 30 Secs Of A Power Failure

Reference Point For Line Seizure/Line Release 100u A

Reference Point For Line Seizure/Line Release Qualification Time: 5m Secs

EUT current must be within limit mask within 0.4 Secs Of Passing Reference Point For Line Seizure/Line Release

Apply Test Limit For EUT Current To Be Within Limit Mask: 1 (0 = Do Not Apply, 1 = Apply)

Qualification Time For EUT Current Being Within Limit Mask: 5m Secs

Maximum (aggregated) Time That EUT Current Is Allowed Outside Mask Limits: 7m Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limits: , Please see test results

For Lower Test Limits: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.17%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.17%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

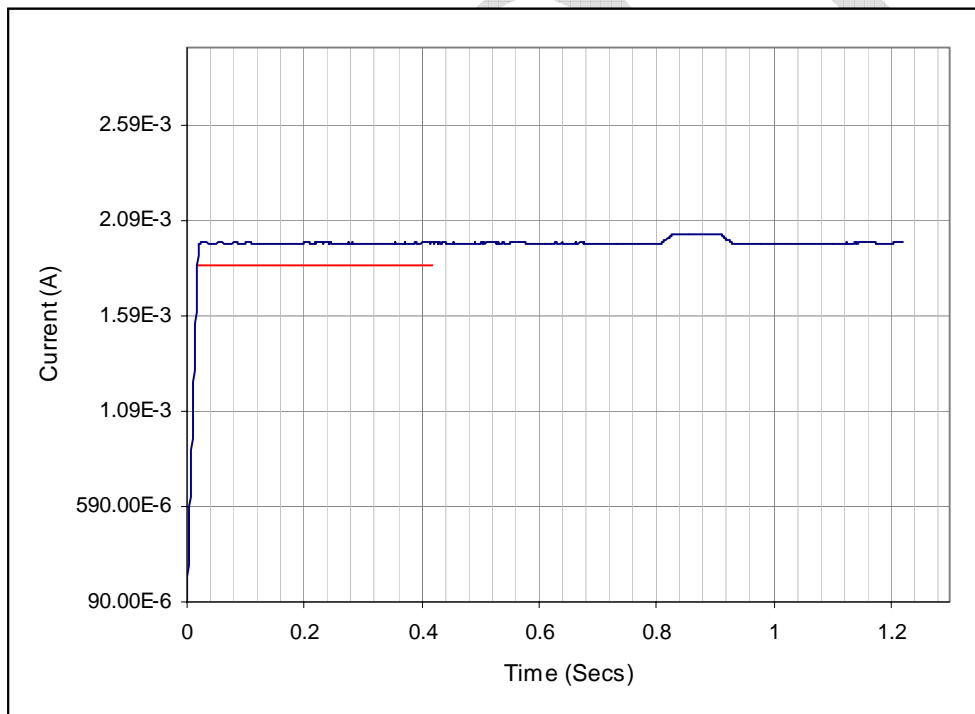
Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

Measured Timing: 0.105mSecs

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|   |   |                      |                          |
|---|---|----------------------|--------------------------|
| <b>ID</b>   | 4303  | <b>Job No</b>        | 1000273                  |
| <b>Customer</b>                                   | Xingtel Xiamen Electronics Co.,Ltd  |                      |                          |
| <b>Product</b>                                    | XL-2029IDM;TK4060   |                      |                          |
| <b>Specification</b>                              | ETSI ES 203 021-3 v2.1.2 January 2006   |                      |                          |
| <b>Purpose Of Test</b>                            | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |                      |                          |
| <b>EUT Details</b>                                | Sample Number: 0001, Modification State: 00   |                      |                          |
| <b>Operating State</b>                            | Test Condition 3: Test Condition 3: 50Vdc, 24kohms  |                      |                          |
| <b>Test Class</b>                                 | Formal Test   | <b>Engineer</b>      | Jack                     |
| <b>Date &amp; Time</b>                            | Wed<br>09/Dec/2009<br>17:16:54  | <b>Temp( )</b><br>25 | <b>Humidity(%)</b><br>56 |
| <b>Tested With Auto Test Run (EUT Master): No</b> |   |                      |                          |
| <b>Test Result</b>                                |   |                      |                          |

**Overall Test Status: Pass****Test Condition 3, Test Condition 3: 50Vdc, 24kohms**

Measurement Type: On Hook To Off Hook

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 24k Ohms

Loop Current Must Be Within Test Limit Mask Within 0.4 Secs Of Reference Moment Of Line Seizure (t1-t0)

t1 - t0 (Time To Reach First Test Limit Point): 17.85m Secs

t1 - t0 (Time To Reach First Test Limit Point) Status: **Pass**

Loop Current Fell Below Lower Test Limit Mask For A Total Aggregated Period Of 0 Secs

Status Against Lower Test Limits: **Pass****Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4303  | Job No   | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State | Test Condition 3: Test Condition 3: 50Vdc, 24kohms  |          |         |             |    |
| Test Class      | Formal Test   | Engineer | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )  | 25      | Humidity(%) | 56 |
|                 |   |          |         |             |    |
| Test Details    |   |          |         |             |    |

**Test Details**

TestCondition 3

Test Description: Test Condition 3: 50Vdc, 24kohms

DC Feed Voltage: 50 Vdc

Feed Resistance: 24k Ohms

Feed Polarity Normal Polarity

Type Of Test: On Hook To Off Hook

After Configuring Test Wait 60 Secs Before Starting Test

EUT Must Release Line Within 30 Secs Of A Power Failure

Reference Point For Line Seizure/Line Release 100u A

Reference Point For Line Seizure/Line Release Qualification Time: 5m Secs

EUT current must be within limit mask within 0.4 Secs Of Passing Reference Point For Line Seizure/Line Release

Apply Test Limit For EUT Current To Be Within Limit Mask: 1 (0 = Do Not Apply, 1 = Apply)

Qualification Time For EUT Current Being Within Limit Mask: 5m Secs

Maximum (aggregated) Time That EUT Current Is Allowed Outside Mask Limits: 7m Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limits: , Please see test results

For Lower Test Limits: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.165%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.165%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

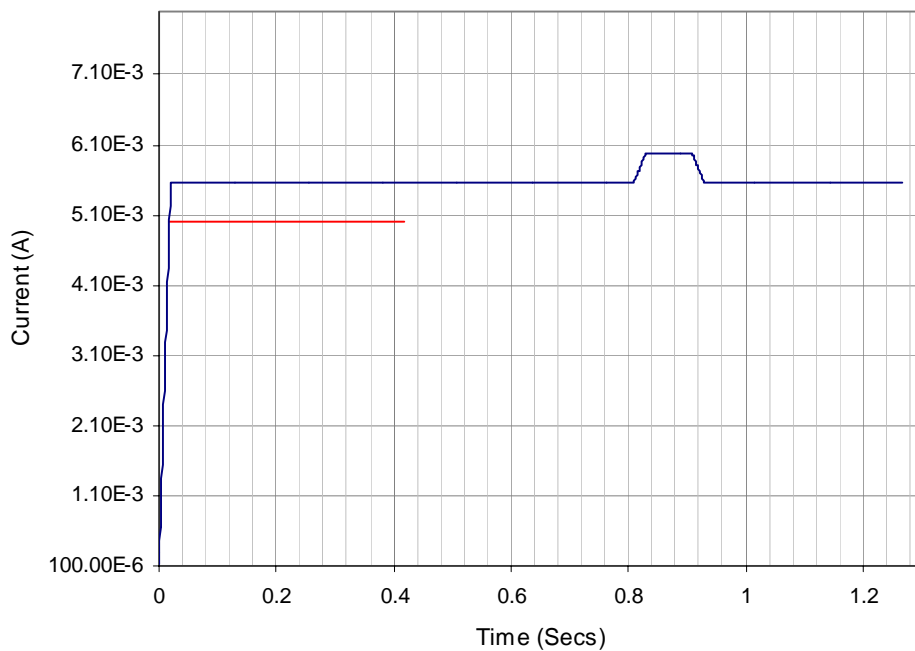
Measured Timing: 0.105mSecs

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |  |         |             |    |
|-----------------|---|--|---------|-------------|----|
| ID              | 4303  | Job No                                     | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |             |    |
| Product         | XL-2029IDM;TK4060   |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |  |         |             |    |
|                 |   |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |  |         |             |    |
| Operating State | Test Condition 4: Test Condition 4: 50Vdc, 8kohms   |  |         |             |    |
| Test Class      | Formal Test   | Engineer                                   |         | Jack        |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |             |    |
|                 |   |  |         |             |    |
| Test Result     |   |  |         |             |    |

Overall Test Status: Pass

**Test Condition 4, Test Condition 4: 50Vdc, 8kohms**

Measurement Type: On Hook To Off Hook

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 8k Ohms

Loop Current Must Be Within Test Limit Mask Within 0.4 Secs Of Reference Moment Of Line Seizure (t1-t0)

t1 - t0 (Time To Reach First Test Limit Point): 17.63m Secs

t1 - t0 (Time To Reach First Test Limit Point) Status: **Pass**

Loop Current Fell Below Lower Test Limit Mask For A Total Aggregated Period Of 0 Secs

Status Against Lower Test Limits: **Pass****Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4303  | Job No   | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State | Test Condition 4: Test Condition 4: 50Vdc, 8kohms   |          |         |             |    |
| Test Class      | Formal Test   | Engineer | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )  | 25      | Humidity(%) | 56 |
|                 |   |          |         |             |    |
| Test Details    |   |          |         |             |    |

**Test Details**

## TestCondition 4

Test Description: Test Condition 4: 50Vdc, 8kohms

DC Feed Voltage: 50 Vdc

Feed Resistance: 8k Ohms

Feed Polarity Reverse Polarity

Type Of Test: On Hook To Off Hook

After Configuring Test Wait 60 Secs Before Starting Test

EUT Must Release Line Within 30 Secs Of A Power Failure

Reference Point For Line Seizure/Line Release 100u A

Reference Point For Line Seizure/Line Release Qualification Time: 5m Secs

EUT current must be within limit mask within 0.4 Secs Of Passing Reference Point For Line Seizure/Line Release

Apply Test Limit For EUT Current To Be Within Limit Mask: 1 (0 = Do Not Apply, 1 = Apply)

Qualification Time For EUT Current Being Within Limit Mask: 5m Secs

Maximum (aggregated) Time That EUT Current Is Allowed Outside Mask Limits: 7m Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limits: , Please see test results

For Lower Test Limits: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.213%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.213%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

Measured Timing: 0.105mSecs

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |  |         |             |    |
|-----------------|---|--|---------|-------------|----|
| ID              | 4303  | Job No                                     | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |             |    |
| Product         | XL-2029IDM;TK4060   |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |  |         |             |    |
|                 |   |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00 Sample Number: 0002, Modification State: 00   |  |         |             |    |
| Operating State | Test Condition 5: Test Condition 5: 50Vdc, 2800 Ohms  |  |         |             |    |
| Test Class      | Engineering Test  | Engineer                                   |         | Jack        |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |             |    |

**Test Result****Overall Test Status: Pass****Test Condition 5, Test Condition 5: 50Vdc, 2800 Ohms**

Measurement Type: On Hook To Off Hook

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.8k Ohms

Loop Current Must Be Within Test Limit Mask Within 30m Secs Of Reference Moment Of Line Seizure (t1-t0)

t1 - t0 (Time To Reach First Test Limit Point): 1.820m Secs

t1 - t0 (Time To Reach First Test Limit Point) Status: Pass

Loop Current Fell Below Lower Test Limit Mask For A Total Aggregated Period Of 0 Secs

Status Against Lower Test Limits: Pass**Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4303  | Job No   | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00 Sample Number: 0002, Modification State: 00   |          |         |             |    |
| Operating State | Test Condition 5: Test Condition 5: 50Vdc, 2800 Ohms  |          |         |             |    |
| Test Class      | Engineering Test  | Engineer |         | Jack        |    |
| Date & Time     | Wed 09/Dec/2009 17:16:54  | Temp( )  | 25      | Humidity(%) | 56 |

**Test Details**

TestCondition 5

Test Description: Test Condition 5: 50Vdc, 2.8k Ohms

DC Feed Voltage: 50 Vdc

Feed Resistance: 2.8k Ohms

Feed Polarity Normal Polarity

Type Of Test: On Hook To Off Hook

After Configuring Test Wait 60 Secs Before Starting Test

EUT Must Release Line Within 30 Secs Of A Power Failure

Reference Point For Line Seizure/Line Release 100u A

Reference Point For Line Seizure/Line Release Qualification Time: 5m Secs

EUT current must be within limit mask within 30m Secs Of Passing Reference Point For Line Seizure/Line Release

Apply Test Limit For EUT Current To Be Within Limit Mask: 1 (0 = Do Not Apply, 1 = Apply)

Qualification Time For EUT Current Being Within Limit Mask: 5m Secs

Maximum (aggregated) Time That EUT Current Is Allowed Outside Mask Limits: 7m Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limits: , Please see test results

For Lower Test Limits: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.169%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.168%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

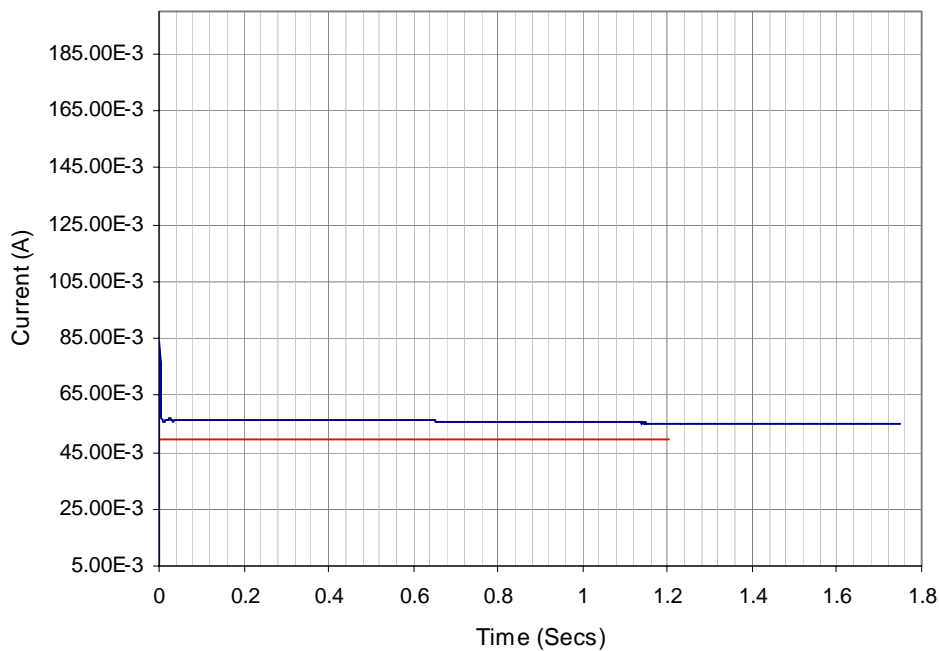
Measured Timing: 0.105mSecs



Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |  |         |             |    |
|-----------------|---|--|---------|-------------|----|
| ID              | 4303  | Job No                                     | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |             |    |
| Product         | XL-2029IDM;TK4060   |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |  |         |             |    |
|                 |   |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00 Sample Number: 0002, Modification State: 00   |  |         |             |    |
| Operating State | Test Condition 6: Test Condition 6: 50Vdc, 400ohms  |  |         |             |    |
| Test Class      | Engineering Test  | Engineer                                   | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |             |    |

**Test Result****Overall Test Status: Pass****Test Condition 6, Test Condition 6: 50Vdc, 400ohms**

Measurement Type: On Hook To Off Hook

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 400 Ohms

Loop Current Must Be Within Test Limit Mask Within 20m Secs Of Reference Moment Of Line Seizure (t1-t0)

t1 - t0 (Time To Reach First Test Limit Point): 0.9093m Secs

t1 - t0 (Time To Reach First Test Limit Point) Status: **Pass**

Loop Current Fell Below Lower Test Limit Mask For A Total Aggregated Period Of 0 Secs

Status Against Lower Test Limits: **Pass****Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratory Co. (BACL)

**Clause 4.6.2, Loop Current Characteristics**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4303  | Job No   | 1000273 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test | To check the current/time characteristics of the EUT during the transition from quiescent to loop state comply with clause 4.6.2 of ES 203021-3 |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00 Sample Number: 0002, Modification State: 00   |          |         |             |    |
| Operating State | Test Condition 6: Test Condition 6: 50Vdc, 400ohms  |          |         |             |    |
| Test Class      | Engineering Test  | Engineer |         | Jack        |    |
| Date & Time     | Wed<br>09/Dec/2009<br>17:16:54  | Temp( )  | 25      | Humidity(%) | 56 |

**Test Details**

TestCondition 6

Test Description: Test Condition 6: 50Vdc, 400ohms

DC Feed Voltage: 50 Vdc

Feed Resistance: 400 Ohms

Feed Polarity Reverse Polarity

Type Of Test: On Hook To Off Hook

After Configuring Test Wait 60 Secs Before Starting Test

EUT Must Release Line Within 30 Secs Of A Power Failure

Reference Point For Line Seizure/Line Release 100u A

Reference Point For Line Seizure/Line Release Qualification Time: 5m Secs

EUT current must be within limit mask within 20m Secs Of Passing Reference Point For Line Seizure/Line Release

Apply Test Limit For EUT Current To Be Within Limit Mask: 1 (0 = Do Not Apply, 1 = Apply)

Qualification Time For EUT Current Being Within Limit Mask: 5m Secs

Maximum (aggregated) Time That EUT Current Is Allowed Outside Mask Limits: 7m Secs

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

For Upper Test Limits: , Please see test results

For Lower Test Limits: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: 1.214%

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: 1.214%

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: N/A

Measured Timing: 0.105mSecs

|   |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)         |  |          |         |             |    |
| <b>Clause 4.6.3, On hook to off hook transition with ringing without DC</b> |  |          |         |             |    |
| ID  | 4304   | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To check that the current / time characteristics of the TE during the transition from quiescent to loop state,for ringing without DC,when the transition occurs during a ringing pulse,comply requirement. |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State   | Cause the TE to make a transition to loop state during a ring pulse  |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>13:58:23   | Temp( )  | 25      | Humidity(%) | 56 |
| Tested With Auto Test Run (EUT Master): No                                  |  |          |         |             |    |
| <b>Test Result</b>  |  |          |         |             |    |

**Overall Test Status: Pass**

**Test Condition, Loop State**

Measurement Type: On Hook To Off Hook  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 300 Ohms and 2.7k Ohms.  
 AC Feed Voltage: 50Vrms, AC Feed Resistance: 700 Ohms and 1.6k Ohms.  
 Ring Signal Frequency: 25Hz and 50 Hz  
 The time is 455ms,which measures the value of start of on-hook transition after start of ringing pulse.

**Test Result: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.6.4, Ring trip**

|                 |  |  |         |             |    |
|-----------------|--|--|---------|-------------|----|
| ID              | 4305   | Job No                                     | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |  |         |             |    |
| Product         | XL-2029IDM;TK4060  |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |         |             |    |
| Purpose Of Test | To check that the current of the TE during the transition from quiescent to loop state,comply requirement. |  |         |             |    |
|                 |  |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |  |         |             |    |
| Operating State | Cause the TE to make a transition to loop state during a ring without DC.                                  |  |         |             |    |
| Test Class      | Formal Test  | Engineer                                   |         | Jack        |    |
| Date & Time     | Wed<br>09/Dec/2009<br>14:16:44   | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |             |    |
|                 |  |  |         |             |    |
| Test Result     |  |  |         |             |    |

**Overall Test Status: Pass****Test Condition, Quiescent state to Loop State**

Measurement Type: Quiescent state to Loop State during a ring without DC.

DC Feed Voltage: 50 Vdc, DC Feed Resistance: 850 Ohms.

Voltage of the Ringing source: 50Vrms,impedance of the ringing source: 800 Ohms.

Before measuring,keep the TE in quiescent state for 1 minute.

In sequence,send the ring 50 Vrms without DC using,and then cause the TE to make a transition from the quiescent to the loop state.

The AC current to the TE is 42.4 mA , which measures the effective value of the AC current.

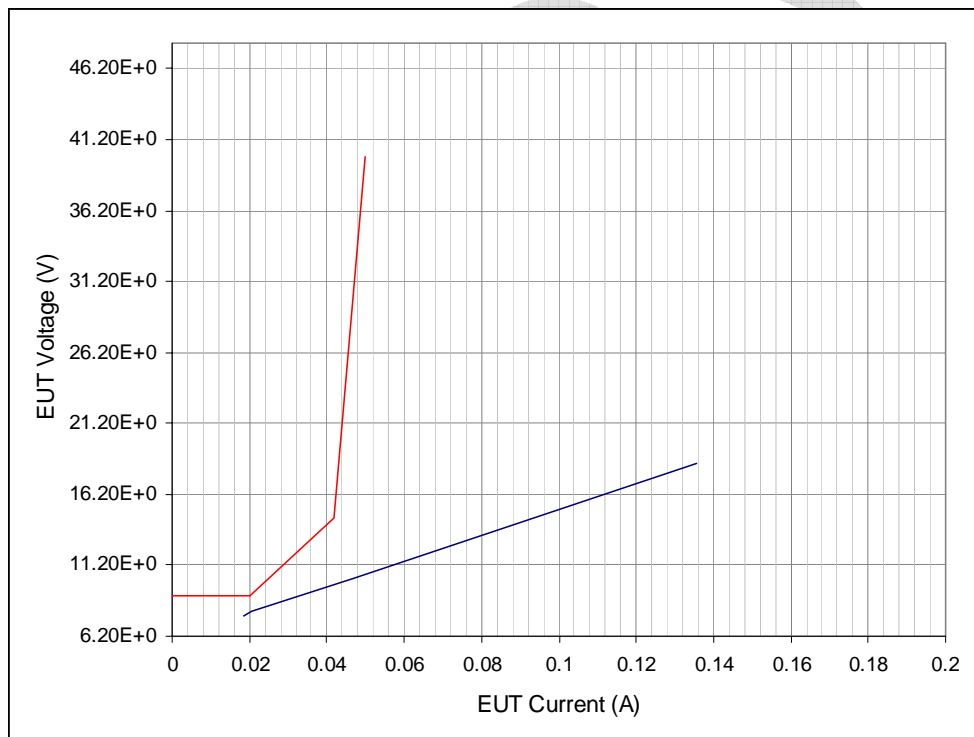
**Test Result: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.7.1, DC Characteristics**

|                 |   |  |         |             |    |
|-----------------|---|--|---------|-------------|----|
| ID              | 4306  | Job No                                     | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |             |    |
| Product         | XL-2029IDM;TK4060   |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                                     |  |         |             |    |
| Purpose Of Test | To verify the steady state DC loop characteristics are within test limits |  |         |             |    |
|                 |   |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00                               |  |         |             |    |
| Operating State | Off Hook (On Line), Test Condition 1: Test Condition 1                    |  |         |             |    |
| Test Class      | Formal Test   | Engineer                                   |         | Jack        |    |
| Date & Time     | Wed<br>09/Dec/2009<br>14:27:51  | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |             |    |
|                 |   |  |         |             |    |
| Test Result     |   |  |         |             |    |

Overall Test Status: Pass

**Test Condition 1, Test Condition 1**

Measurement Type: Off Hook DC Characteristics

DC Feed Voltage: 50 Vdc, Initial Feed Circuit Polarity: Normal Polarity

Change Feed Polarity Between Measurement Points: 1 (0 = Do Not Change, 1 = Change)

| Test Ohms | EUT V | EUT A  | EUT Ohms |
|-----------|-------|--------|----------|
| 2.3k      | 7.671 | 18.44m | 416      |
| 2.05k     | 7.925 | 20.55m | 385.7    |
| 850       | 10.21 | 46.71m | 218.6    |
| 230       | 18.4  | 0.1357 | 135.6    |

Status Against Upper Limits: **Pass**Status Against EUT Current Limit: **Pass**

|   |   |  |         |             |    |  |  |  |  |  |
|---|---|--|---------|-------------|----|--|--|--|--|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |  |         |             |    |  |  |  |  |  |
| <b>Clause 4.7.1, DC Characteristics</b>                             |   |  |         |             |    |  |  |  |  |  |
| ID  | 4306  | Job No                                     | 1000281 |             |    |  |  |  |  |  |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |  |         |             |    |  |  |  |  |  |
| Product   | XL-2029IDM;TK4060   |  |         |             |    |  |  |  |  |  |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                                     |  |         |             |    |  |  |  |  |  |
| Purpose Of Test   | To verify the steady state DC loop characteristics are within test limits |  |         |             |    |  |  |  |  |  |
|   |   |  |         |             |    |  |  |  |  |  |
| EUT Details   | Sample Number: 0001, Modification State: 00                               |  |         |             |    |  |  |  |  |  |
| Operating State   | Off Hook (On Line), Test Condition 1: Test Condition 1                    |  |         |             |    |  |  |  |  |  |
| Test Class  | Formal Test   | Engineer                                   | Jack    |             |    |  |  |  |  |  |
| Date & Time   | Wed<br>09/Dec/2009<br>14:27:51  | Temp( )                                    | 25      | Humidity(%) | 56 |  |  |  |  |  |
|   |   | Tested With Auto Test Run (EUT Master): No |         |             |    |  |  |  |  |  |
|   |   |  |         |             |    |  |  |  |  |  |
| Test Result   |   |  |         |             |    |  |  |  |  |  |

**Overall Test Status: Pass**Test Condition Status: Pass

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.7.1, DC Characteristics**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4306  | Job No   | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                                     |          |         |             |    |
| Purpose Of Test | To verify the steady state DC loop characteristics are within test limits |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00                               |          |         |             |    |
| Operating State | Off Hook (On Line), Test Condition 1: Test Condition 1                    |          |         |             |    |
| Test Class      | Formal Test   | Engineer | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>14:27:51  | Temp( )  | 25      | Humidity(%) | 56 |
|                 |   |          |         |             |    |
| Test Details    |   |          |         |             |    |

**Test Details**

TestCondition 1

Test Description: Test Condition 1

DC Feed Voltage: 50 Vdc

DC Current: 0.12 A

Feed Resistance: 400 Ohms

Feed Polarity: Normal Polarity

EUT Is Off Hook When Current Exceeds: 4m A

Type Of Measurement: Off Hook DC Characteristics

Method Of Measurement: Adjustable Resistance

Resistances (Ohms) Used For Adjustable Resistance Test Method: 2.3k, 2.05k, 850, 400

Time Waited Between Measurement Points: 60 Secs

Time Waited After Configuring Measurement Point Before Taking Measurements: 3 Secs

Measurements Taken For: 0.2 Secs

Between Measurement Points Change Feed Polarity: 1 (0 = Do Not Change, 1 = Change)

Between Measurement Points Take EUT On Hook: 1 (0 = Leave Off Hook, 1 = Go On Hook)

Between Measurement Points Disconnect Feed Circuit From EUT: 0 (0 =Leave Connected, 1 = Disconnect)

Short Circuit EUT When Disconnected From Feed Bridge: 0 (0 = Open Circuit, 1 = Short Circuit)

Results Are Based On: Average Measured Value Over Defined Measurement Time

Graph Type: Voltage/Current

Use Lower Test Limits: 0 (0 = Do Not Use, 1 = Use)

Use Upper Test Limits: 1 (0 = Do Not Use, 1 = Use)

For Lower Test Limits: , Please see test results

For Upper Test Limits, Please see test results

Test For EUT Current Limit: 1 (0 = Do Not Test, 1 = Test)

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Values

Measurement Point 1: 1.197%

Measurement Point 2: 1.234%

Measurement Point 3: 1.306%

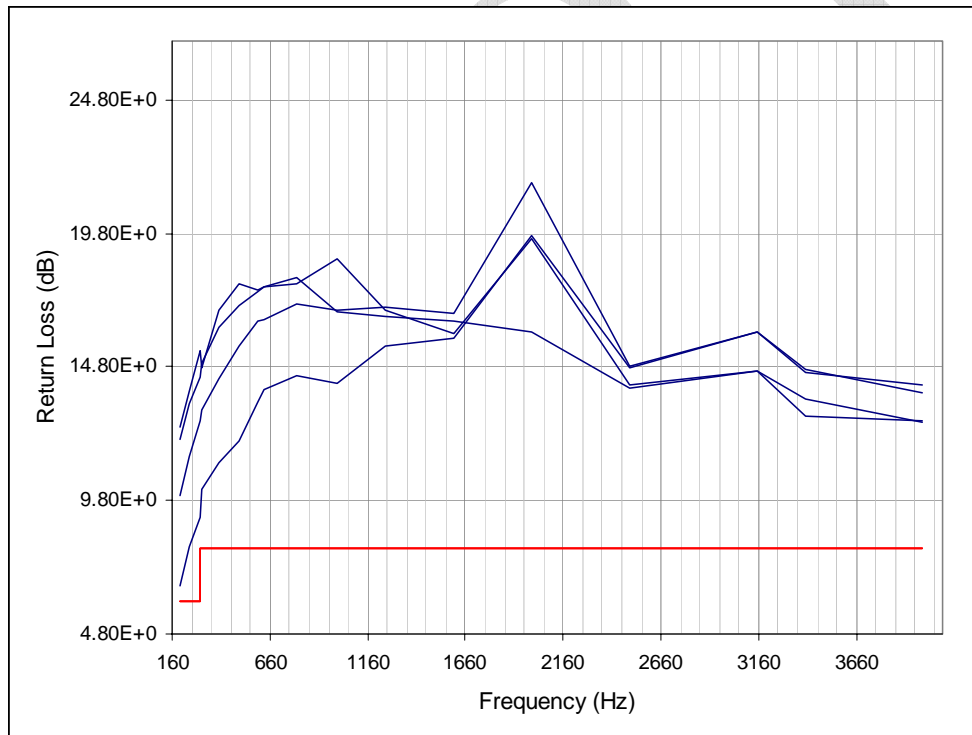
Measurement Point 4: 1.336%

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.7.2, Impedance In The Loop State**

|                 |  |  |         |             |    |
|-----------------|--|--|---------|-------------|----|
| ID              | 4307   | Job No                                     | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |  |         |             |    |
| Product         | XL-2029IDM;TK4060  |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |         |             |    |
| Purpose Of Test | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |  |         |             |    |
|                 |  |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |  |         |             |    |
| Operating State | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |  |         |             |    |
| Test Class      | Formal Test  | Engineer                                   | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |             |    |
|                 |  |  |         |             |    |
| Test Result     |  |  |         |             |    |

Overall Test Status: Pass

**Test Condition 1, Test Condition 1: 2k3 Ohms Feed Resistor, Normal Polarity**

Measurement Type: Off Hook Return Loss

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.3k Ohms

EUT Operating State: Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)

Reference Impedance: 270R+(750R//0.15uF)

| <u>Freq (Hz)</u> | <u>Mag (Ohms)</u> | <u>Phase (Deg)</u> | <u>Real (Ohms)</u> | <u>Imag (Ohms)</u> | <u>Return Loss (dB)</u> |
|------------------|-------------------|--------------------|--------------------|--------------------|-------------------------|
| 200              |                   |                    |                    |                    | 93                      |
| 9.1              |                   |                    |                    |                    | 20.                     |



|   |  |  |    |             |    |
|---|--|--|----|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |  |    |             |    |
| Clause 4.7.2, Impedance In The Loop State                           |  |  |    |             |    |
| ID  | 4307   | Job No                                     |    | 1000281     |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |  |    |             |    |
| Product   | XL-2029IDM;TK4060  |  |    |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |    |             |    |
| Purpose Of Test   | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |  |    |             |    |
|   |  |  |    |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |  |    |             |    |
| Operating State   | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |  |    |             |    |
| Test Class  | Formal Test  | Engineer                                   |    | Jack        |    |
| Date & Time   | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )                                    | 25 | Humidity(%) | 56 |
|   |  | Tested With Auto Test Run (EUT Master): No |    |             |    |
|   |  |  |    |             |    |
| Test Result   |  |  |    |             |    |

Overall Test Status: Pass

|       |        |        |        |                 |
|-------|--------|--------|--------|-----------------|
| 35    |        |        |        | 88              |
| 0.5   |        |        |        | 32              |
| 6.5   |        |        |        | 12.             |
| 54    |        |        |        |                 |
| 250   | 979.3  | 15.45  | 943.9  | 260.9           |
|       | 13.89  |        |        |                 |
| 300   | 996.2  | 10.5   | 979.5  | 181.6           |
|       | 15.41  |        |        |                 |
| 315   | 1.003k | 11.56  | 982.8  | 201.1           |
|       | 14.75  |        |        |                 |
| 400   | 935.5  | 4.505  | 932.7  | 73.49           |
|       | 16.9   |        |        |                 |
| 500   | 1.012k | 0.1678 | 1.012k | 2.964           |
|       | 17.89  |        |        |                 |
| 600   | 1.016k | -2.305 | 1.015k | -40.85          |
|       | 17.7   |        |        |                 |
| 630   | 1.02k  | -3.352 | 1.018k | -59.65          |
|       | 17.78  |        |        |                 |
| 800   | 1.003k | -8.352 | 992.4  | -145.7          |
|       | 18.15  |        |        |                 |
| 1k    | 1.009k | -11.64 | 988.1  | -203.5          |
|       | 16.86  |        |        |                 |
| 1.25k | 982.3  | -17.55 | 936.6  | -296.2          |
|       | 16.71  |        |        |                 |
| 1.6k  | 938    | -26.22 | 841.5  | -414.4          |
|       | 16.48  |        |        |                 |
| 2k    | 854.6  | -30.1  | 739.4  | -428.6          |
|       | 16.12  |        |        |                 |
| 2.5k  | 826.7  | -38.99 | 642.6  | -520.2 ..... 14 |
| 3.15k | 689.9  | -42.5  | 508.7  | -466.1          |
|       | 14.64  |        |        |                 |
| 3.4k  | 718.9  | -42.39 | 531    | -484.7          |
|       | 12.97  |        |        |                 |
| 4k    | 623.5  | -48.63 | 412.1  | -467.9          |
|       | 12.75  |        |        |                 |

|   |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |             |    |
| <b>Clause 4.7.2, Impedance In The Loop State</b>                    |  |          |         |             |    |
| ID  | 4307   | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |          |         |             |    |
|   |  |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State   | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )  | 25      | Humidity(%) | 56 |
| Tested With Auto Test Run (EUT Master): No                          |  |          |         |             |    |
|   |  |          |         |             |    |
| <b>Test Result</b>  |  |          |         |             |    |

Overall Test Status: Pass

Return Loss Status Against Lower Limits: Pass

Reactive Component Assessed In The Frequency Band: 200 Hz, To 300 Hz

Measured Reactive Component Of Impedance Must Be &lt;= 500 Ohms

Reactive Component Status Against Upper Limit: PassTest Condition Status: Pass**Test Condition 2, Test Condition 2: 2050 Ohms Feed Resistor, Reverse Polarity**

Measurement Type: Off Hook Return Loss

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 2.05k Ohms

EUT Operating State: Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)

Reference Impedance: 270R+(750R//0.15uF)

| Freq (Hz) | Mag (Ohms) | Phase (Deg) | Real (Ohms) | Imag (Ohms) | Return |
|-----------|------------|-------------|-------------|-------------|--------|
| Loss (dB) |            |             |             |             |        |
| 200       | 923.2      | 21.5        | 859         | 338.4       | 12.11  |
| 250       | 985.7      | 16.76       | 943.8       | 284.2       | 13.4   |
| 300       | 1.015k     | 12.79       | 989.6       | 224.7       | 14.4   |
| 315       | 994.9      | 11.06       | 976.4       | 190.9       | 14.97  |
| 400       | 1.014k     | 5.848       | 1.009k      | 103.4       | 16.28  |
| 500       | 1.031k     | 1.335       | 1.03k       | 24.01       | 17.11  |
| 600       | 1.016k     | -2.199      | 1.015k      | -38.96      | 17.64  |
| 630       | 1.012k     | -3.244      | 1.01k       | -57.27      | 17.8   |
| 800       | 999.5      | -7.765      | 990.3       | -135        | 17.88  |
| 1k        | 973.5      | -14.23      | 943.6       | -239.2      | 18.82  |
| 1.25k     | 979        | -17.87      | 931.8       | -300.3      | 16.9   |
| 1.6k      | 949.6      | -25.68      | 855.8       | -411.5      | 16.07  |
| 2k        | 760.1      | -28.98      | 664.9       | -368.2      | 19.59  |
| 2.5k      | 824.6      | -38.27      | 647.5       | -510.7      | 14.09  |
| 3.15k     | 693.8      | -41.68      | 518.2       | -461.3      | 14.63  |
| 3.4k      | 695.1      | -42.18      | 515.2       | -466.7      | 13.61  |
| 4k        | 625.2      | -48.64      | 413.1       | -469.3      | 12.71  |

Return Loss Status Against Lower Limits: Pass

Reactive Component Assessed In The Frequency Band: 200 Hz, To 300 Hz

Measured Reactive Component Of Impedance Must Be &lt;= 500 Ohms

Reactive Component Status Against Upper Limit: PassTest Condition Status: Pass

|   |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |             |    |
| <b>Clause 4.7.2, Impedance In The Loop State</b>                    |  |          |         |             |    |
| ID  | 4307   | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |          |         |             |    |
| EUT Details   |  |          |         |             |    |
| Sample Number: 0001, Modification State: 00                         |  |          |         |             |    |
| Operating State   |  |          |         |             |    |
| Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)     |  |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )  | 25      | Humidity(%) | 56 |
| Tested With Auto Test Run (EUT Master): No                          |  |          |         |             |    |
| <b>Test Result</b>  |  |          |         |             |    |

Overall Test Status: Pass

**Test Condition 3, Test Condition 3: 850 Ohms Feed Resistor, Normal Polarity**

Measurement Type: Off Hook Return Loss

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 850 Ohms

EUT Operating State: Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)

Reference Impedance: 270R+(750R//0.15uF)

| Freq (Hz)        | Mag (Ohms) | Phase (Deg) | Real (Ohms) | Imag (Ohms) | Return |
|------------------|------------|-------------|-------------|-------------|--------|
| <b>Loss (dB)</b> |            |             |             |             |        |
| 200              | 818.8      | 27.34       | 727.4       | 376.1       | 9.999  |
| 250              | 877.1      | 21.67       | 815.1       | 324         | 11.45  |
| 300              | 919.2      | 16.74       | 880.3       | 264.7       | 12.76  |
| 315              | 893.7      | 14.79       | 864.1       | 228.1       | 13.18  |
| 400              | 950.4      | 10.05       | 935.8       | 165.8       | 14.37  |
| 500              | 966        | 4.727       | 962.7       | 79.61       | 15.6   |
| 600              | 973.2      | 0.3793      | 973.2       | 6.442       | 16.49  |
| 630              | 946.7      | -0.3694     | 946.7       | -6.103      | 16.55  |
| 800              | 956.9      | -5.548      | 952.4       | -92.52      | 17.13  |
| 1k               | 950.1      | -9.813      | 936.2       | -161.9      | 16.94  |
| 1.25k            | 944.8      | -16.14      | 907.6       | -262.6      | 17.02  |
| 1.6k             | 913.5      | -24.26      | 832.8       | -375.3      | 16.79  |
| 2k               | 711.6      | -28         | 628.3       | -334.1      | 21.71  |
| 2.5k             | 798.9      | -37.15      | 636.7       | -482.5      | 14.84  |
| 3.15k            | 658.5      | -39.7       | 506.7       | -420.6      | 16.11  |
| 3.4k             | 666.9      | -39.74      | 512.9       | -426.4      | 14.71  |
| 4k               | 600        | -46.28      | 414.7       | -433.6      | 13.84  |

Return Loss Status Against Lower Limits: **Pass**

Reactive Component Assessed In The Frequency Band: 200 Hz, To 300 Hz

Measured Reactive Component Of Impedance Must Be &lt;= 500 Ohms

Reactive Component Status Against Upper Limit: **Pass****Test Condition Status: Pass****Test Condition 4, Test Condition 4: 400 Ohms Feed Resistor, Reverse Polarity**

Measurement Type: Off Hook Return Loss

DC Feed Voltage: 50 Vdc, Reverse Polarity, DC Feed Resistance: 400 Ohms

EUT Operating State: Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)

Reference Impedance: 270R+(750R//0.15uF)

| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |  |    |             |    |
|---|--|--|----|-------------|----|
| Clause 4.7.2, Impedance In The Loop State                           |  |  |    |             |    |
| ID  | 4307   | Job No                                     |    | 1000281     |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |  |    |             |    |
| Product   | XL-2029IDM;TK4060  |  |    |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |    |             |    |
| Purpose Of Test   | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |  |    |             |    |
|   |  |  |    |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |  |    |             |    |
| Operating State   | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |  |    |             |    |
| Test Class  | Formal Test  | Engineer                                   |    | Jack        |    |
| Date & Time   | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )                                    | 25 | Humidity(%) | 56 |
|   |  | Tested With Auto Test Run (EUT Master): No |    |             |    |
|   |  |  |    |             |    |
| Test Result   |  |  |    |             |    |

Overall Test Status: Pass

| Freq (Hz)  | Mag (Ohms) | Phase (Deg) | Real (Ohms) | Imag (Ohms) | Return Loss (dB) |
|--|------------|-------------|-------------|-------------|------------------|
| 200  | 645.7      | 38.98       | 501.9       | 406.2       | 6.628            |
| 250  | 745.2      | 32.87       | 625.9       | 404.5       | 8.078            |
| 300  | 793.9      | 27.67       | 703.1       | 368.6       | 9.164            |
| 315  | 825.5      | 23.49       | 757.1       | 329         | 10.24            |
| 400  | 883        | 18.61       | 836.8       | 281.7       | 11.23            |
| 500  | 905.9      | 13.81       | 879.7       | 216.2       | 12.02            |
| 600  | 949.9      | 7.313       | 942.2       | 120.9       | 13.49            |
| 630  | 954.8      | 5.461       | 950.5       | 90.87       | 13.92            |
| 800  | 949.3      | 0.2046      | 949.3       | 3.39        | 14.47            |
| 1k   | 950.7      | -3.477      | 948.9       | -57.65      | 14.17            |
| 1.25k  | 937.9      | -12.33      | 916.3       | -200.3      | 15.6             |
| 1.6k   | 911.6      | -20.63      | 853.2       | -321.2      | 15.86            |
| 2k   | 709.1      | -24.55      | 645         | -294.7      | 19.7             |
| 2.5k   | 802.8      | -35.19      | 656         | -462.6      | 14.76            |
| 3.15k  | 663.4      | -37.35      | 527.4       | -402.5      | 16.12            |
| 3.4k   | 675.7      | -37.34      | 537.3       | -409.8      | 14.59            |
| 4k   | 607        | -43.63      | 439.3       | -418.8      | 14.12            |
| Return Loss Status Against Lower Limits: <u>Pass</u>                 |            |             |             |             |                  |
| Reactive Component Assessed In The Frequency Band: 200 Hz, To 300 Hz |            |             |             |             |                  |
| Measured Reactive Component Of Impedance Must Be <= 500 Ohms         |            |             |             |             |                  |
| Reactive Component Status Against Upper Limit: <u>Pass</u>           |            |             |             |             |                  |
| <u>Test Condition Status: Pass</u>                                   |            |             |             |             |                  |

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.7.2, Impedance In The Loop State**

|                 |  |          |         |             |    |
|-----------------|--|----------|---------|-------------|----|
| ID              | 4307   | Job No   | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product         | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |          |         |             |    |
|                 |  |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |          |         |             |    |
| Test Class      | Formal Test  | Engineer | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )  | 25      | Humidity(%) | 56 |
|                 |  |          |         |             |    |
| Test Details    |  |          |         |             |    |

**Test Details**

## TestCondition 1

Test Description: Test Condition 1: 2k3 Ohms Feed Resistor, Normal Polarity

Disconnect Feed Bridge During Measurement: 0 (0 = feed bridge connected, 1 = feed bridge disconnected)

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set DC Feed Current As Priority: 0 (0 = not set, 1 = set)

Feed Resistance: 2.3k Ohms

Set Feed Resistance As Priority 1 (0 = not set, 1 = set)

Feed Polarity Normal Polarity

Feed Circuit Inductance: 10H

Feed Bridge DC Blocking Capacitors Per Leg: 500u F

EUT is Off Hook When DC Line Current Exceeds: 5m A

Required EUT Operating State: Off Hook

Reference Impedance Rs: 270 Ohms

Reference Impedance Rp: 750 Ohms

Reference Impedance Cp: 0.15u F

Measurement Type Off Hook Return Loss

AC Test Signal Voltage: 0.316 Vrms

Calibrate AC Test Signal Voltage At: EUT

AC Test Frequencies: 200Hz, 250Hz, 300Hz, 315Hz, 400Hz, 500Hz, 600Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 3.4kHz, 4kHz

Apply Lower Test Limits: 1 (0 = do not use, 1= use)

Apply Upper Test Limits: 0 (0 = do not use, 1= use)

Reference Impedance:  $270R + (750R / 0.15uF)$ 

For Upper Test Limts: , Please see test results

For Lower Test Limts: , Please see test results

Reactive Component Low Frequency: 200 Hz

Reactive Component High Frequency: 300 Hz

Apply Reactive Component Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)

Reactive Component Must Be Less Than: 500 Ohms

Apply Reactive Component Maximum Limit: 1 (0 = Do Not Apply, 1 = Apply)

Apply Impedance Phase Angle Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)

Apply Impedance Phase Angle Maximum Limit: 0 (0 = Do Not Apply, 1 = Apply)

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Magnitude Impedance: 2.304%

Measured Impedance Phase Angle: 32m degrees

Return Loss: 1dB

| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| <b>Clause 4.7.2, Impedance In The Loop State</b>                    |  |          |         |             |    |
| ID  | 4307   | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |          |         |             |    |
|   |  |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State   | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )  | 25      | Humidity(%) | 56 |
|   |  |          |         |             |    |
| <b>Test Details</b>   |  |          |         |             |    |

## TestCondition 2

Test Description: Test Condition 2: 2050 Ohms Feed Resistor, Reverse Polarity  
 Disconnect Feed Bridge During Measurement: 0 (0 = feed bridge connected, 1 = feed bridge disconnected)  
 DC Feed Voltage: 50 Vdc  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (0 = not set, 1 = set)  
 Feed Resistance: 2.05k Ohms  
 Set Feed Resistance As Priority 1 (0 = not set, 1 = set)  
 Feed Polarity Reverse Polarity  
 Feed Circuit Inductance: 10H  
 Feed Bridge DC Blocking Capacitors Per Leg: 500u F  
 EUT is Off Hook When DC Line Current Exceeds: 5m A  
 Required EUT Operating State: Off Hook  
 Reference Impedance Rs: 270 Ohms  
 Reference Impedance Rp: 750 Ohms  
 Reference Impedance Cp: 0.15u F  
 Measurement Type Off Hook Return Loss  
 AC Test Signal Voltage: 0.316 Vrms  
 Calibrate AC Test Signal Voltage At: EUT  
 AC Test Frequencies: 200Hz, 250Hz, 300Hz, 315Hz, 400Hz, 500Hz, 600Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 3.4kHz, 4kHz  
 Apply Lower Test Limits: 1 (0 = do not use, 1= use)  
 Apply Upper Test Limits: 0 (0 = do not use, 1= use)  
 Reference Impedance:  $270R + (750R // 0.15uF)$   
 For Upper Test Limts: , Please see test results  
 For Lower Test Limts: , Please see test results  
 Reactive Component Low Frequency: 200 Hz  
 Reactive Component High Frequency: 300 Hz  
 Apply Reactive Component Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Reactive Component Must Be Less Than: 500 Ohms  
 Apply Reactive Component Maximum Limit: 1 (0 = Do Not Apply, 1 = Apply)  
 Apply Impedance Phase Angle Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Apply Impedance Phase Angle Maximum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured Magnitude Impedance: 1.464%  
 Measured Impedance Phase Angle: 32m degrees  
 Return Loss: 1dB

|   |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |             |    |
| <b>Clause 4.7.2, Impedance In The Loop State</b>                    |  |          |         |             |    |
| ID  | 4307   | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |          |         |             |    |
|   |  |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State   | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )  | 25      | Humidity(%) | 56 |
|   |  |          |         |             |    |
| <b>Test Details</b>   |  |          |         |             |    |

## TestCondition 3

Test Description: Test Condition 3: 850 Ohms Feed Resistor, Normal Polarity  
 Disconnect Feed Bridge During Measurement: 0 (0 = feed bridge connected, 1 = feed bridge disconnected)  
 DC Feed Voltage: 50 Vdc  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (0 = not set, 1 = set)  
 Feed Resistance: 850 Ohms  
 Set Feed Resistance As Priority 1 (0 = not set, 1 = set)  
 Feed Polarity Normal Polarity  
 Feed Circuit Inductance: 10H  
 Feed Bridge DC Blocking Capacitors Per Leg: 500u F  
 EUT is Off Hook When DC Line Current Exceeds: 5m A  
 Required EUT Operating State: Off Hook  
 Reference Impedance Rs: 270 Ohms  
 Reference Impedance Rp: 750 Ohms  
 Reference Impedance Cp: 0.15u F  
 Measurement Type Off Hook Return Loss  
 AC Test Signal Voltage: 0.316 Vrms  
 Calibrate AC Test Signal Voltage At: EUT  
 AC Test Frequencies: 200Hz, 250Hz, 300Hz, 315Hz, 400Hz, 500Hz, 600Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 3.4kHz, 4kHz  
 Apply Lower Test Limits: 1 (0 = do not use, 1= use)  
 Apply Upper Test Limits: 0 (0 = do not use, 1= use)  
 Reference Impedance: 270R+(750R//0.15uF)  
 For Upper Test Limts: , Please see test results  
 For Lower Test Limts: , Please see test results  
 Reactive Component Low Frequency: 200 Hz  
 Reactive Component High Frequency: 300 Hz  
 Apply Reactive Component Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Reactive Component Must Be Less Than: 500 Ohms  
 Apply Reactive Component Maximum Limit: 1 (0 = Do Not Apply, 1 = Apply)  
 Apply Impedance Phase Angle Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Apply Impedance Phase Angle Maximum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured Magnitude Impedance: 2.267%  
 Measured Impedance Phase Angle: 32m degrees  
 Return Loss: 0.7313dB

## TestCondition 4



|   |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |             |    |
| <b>Clause 4.7.2, Impedance In The Loop State</b>                    |  |          |         |             |    |
| ID  | 4307   | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To verify that the return loss of the EUT input impedance in the loop state in relation to the reference impedance ZR is within the specified limits |          |         |             |    |
|   |  |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State   | Off Hook (On Line) Quiet (No Signals Being Transmitted To Line)  |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>14:44:18   | Temp( )  | 25      | Humidity(%) | 56 |
|   |  |          |         |             |    |
| <b>Test Details</b>   |  |          |         |             |    |

Test Description: Test Condition 4: 400 Ohms Feed Resistor, Reverse Polarity  
 Disconnect Feed Bridge During Measurement: 0 (0 = feed bridge connected, 1 = feed bridge disconnected)  
 DC Feed Voltage: 50 Vdc  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (0 = not set, 1 = set)  
 Feed Resistance: 400 Ohms  
 Set Feed Resistance As Priority 1 (0 = not set, 1 = set)  
 Feed Polarity Reverse Polarity  
 Feed Circuit Inductance: 10H  
 Feed Bridge DC Blocking Capacitors Per Leg: 500u F  
 EUT is Off Hook When DC Line Current Exceeds: 5m A  
 Required EUT Operating State: Off Hook  
 Reference Impedance Rs: 270 Ohms  
 Reference Impedance Rp: 750 Ohms  
 Reference Impedance Cp: 0.15u F  
 Measurement Type Off Hook Return Loss  
 AC Test Signal Voltage: 0.316 Vrms  
 Calibrate AC Test Signal Voltage At: EUT  
 AC Test Frequencies: 200Hz, 250Hz, 300Hz, 315Hz, 400Hz, 500Hz, 600Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 3.4kHz, 4kHz  
 Apply Lower Test Limits: 1 (0 = do not use, 1= use)  
 Apply Upper Test Limits: 0 (0 = do not use, 1= use)  
 Reference Impedance: 270R+(750R/0.15uF)  
 For Upper Test Limts: , Please see test results  
 For Lower Test Limts: , Please see test results  
 Reactive Component Low Frequency: 200 Hz  
 Reactive Component High Frequency: 300 Hz  
 Apply Reactive Component Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Reactive Component Must Be Less Than: 500 Ohms  
 Apply Reactive Component Maximum Limit: 1 (0 = Do Not Apply, 1 = Apply)  
 Apply Impedance Phase Angle Minimum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Apply Impedance Phase Angle Maximum Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured Magnitude Impedance: 2.249%  
 Measured Impedance Phase Angle: 32m degrees  
 Return Loss: 0.4842dB



Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause: Clause 4.7.3, Resistance To Earth**

|   |  |                 |                 |
|---|--|-----------------|-----------------|
| <b>ID</b>   | 4308   | <b>Job No</b>   | 1000281         |
| <b>Customer</b>                                   | Xingtel Xiamen Electronics Co.,Ltd   |                 |                 |
| <b>Product</b>                                    | XL-2029IDM;TK4060  |                 |                 |
| <b>Specification</b>                              | ETSI ES 203 021-3 v2.1.2 January 2006  |                 |                 |
| <b>Purpose Of Test</b>                            | To check that the EUT presents a sufficiently high resistance to earth in the loop state |                 |                 |
| <b>EUT Details</b>                                | Sample Number: 0001, Modification State: 00  |                 |                 |
| <b>Operating State</b>                            |  |                 |                 |
| <b>Test Class</b>                                 | Formal Test  | <b>Engineer</b> | Jack            |
| <b>Date &amp; Time</b>                            | Wed<br>09/Dec/2009<br>14:59:54   | <b>Temp</b>     | <b>Humidity</b> |
| <b>Tested With Auto Test Run (EUT Master): No</b> |  |                 |                 |
| <b>Test Result</b>                                |  |                 |                 |

**Overall Test Status: Pass****Test Condition 1, A-Leg Normal Polarity**

Test DC Voltage: 100 Vdc, Normal Polarity, Applied To: A-Leg, with the EUT Off Hook

Measured Resistance Must Be  $\geq$  1M Ohms**Measured Resistance: >150M Ohms**Status Against Lower Limit: Pass**Test Condition Status: Pass****Test Condition 2, A-Leg Reverse Polarity**

Test DC Voltage: 100 Vdc, Reverse Polarity, Applied To: A-Leg, with the EUT Off Hook

Measured Resistance Must Be  $\geq$  1M Ohms**Measured Resistance: >150M Ohms**Status Against Lower Limit: Pass**Test Condition Status: Pass****Test Condition 3, B-Leg Normal Polarity**

Test DC Voltage: 100 Vdc, Normal Polarity, Applied To: B-Leg, with the EUT Off Hook

Measured Resistance Must Be  $\geq$  1M Ohms**Measured Resistance: >150M Ohms**Status Against Lower Limit: Pass**Test Condition Status: Pass****Test Condition 4, B-Leg Reverse Polarity**

Test DC Voltage: 100 Vdc, Reverse Polarity, Applied To: B-Leg, with the EUT Off Hook

Measured Resistance Must Be  $\geq$  1M Ohms**Measured Resistance: >150M Ohms**Status Against Lower Limit: Pass**Test Condition Status: Pass**

|   |  |                 |                 |  |
|---|--|-----------------|-----------------|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |                 |                 |  |
| <b>Clause: Clause 4.7.3, Resistance To Earth</b>                    |  |                 |                 |  |
| <b>ID</b>   | 4308   | <b>Job No</b>   | 1000281         |  |
| <b>Customer</b>   | Xingtel Xiamen Electronics Co.,Ltd   |                 |                 |  |
| <b>Product</b>  | XL-2029IDM;TK4060  |                 |                 |  |
| <b>Specification</b>  | ETSI ES 203 021-3 v2.1.2 January 2006  |                 |                 |  |
| <b>Purpose Of Test</b>  | To check that the EUT presents a sufficiently high resistance to earth in the loop state |                 |                 |  |
| <b>EUT Details</b>  | Sample Number: 0001, Modification State: 00  |                 |                 |  |
| <b>Operating State</b>  |  |                 |                 |  |
| <b>Test Class</b>   | Formal Test  | <b>Engineer</b> | Jack            |  |
| <b>Date &amp; Time</b>  | Wed<br>09/Dec/2009<br>14:59:54   | <b>Temp</b>     | <b>Humidity</b> |  |
| <b>Test Details</b>   |  |                 |                 |  |

## TestCondition 1

Test Description A-Leg Normal Polarity  
 Disconnect Feed Bridge 0 (1 = Disconnected, 0 = Connected)  
 DC Feed Voltage 50 Vdc  
 Feed Resistance 230 Ohms  
 Set Feed Resistance As Priority: 1 (1 = Priority, 0 = No Priority)  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (1 = Priority, 0 = No Priority)  
 Required EUT operating State: Off Hook  
 EUT is Off Hook If Line Current Exceeds: 1m A  
 Resistance To Earth Test Voltage: 100 Vdc  
 Apply Test Voltage To: A-Leg  
 Apply Short Circuit To A And B 0 (1=Short Circuit, 0 = Open Circuit)  
 Test Circuit Polarity Normal Polarity  
 After Applying Test Condition Wait 30 Secs Before Taking Measurements  
 Measured Resistance Must Be >= 1M Ohms  
 Test Lower Resistance Limit: 1 (1 = Test, 0 = Do Not Test)  
 Test Lower Resistance Limit: 0 (1 = Test, 0 = Do Not Test)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured DC Resistance Within 20% Of Lower Test Limit: 2%  
 Measured DC Resistance Within 20% Of Upper Test Limit: N/A

## TestCondition 2

Test Description A-Leg Reverse Polarity  
 Disconnect Feed Bridge 0 (1 = Disconnected, 0 = Connected)  
 DC Feed Voltage 50 Vdc  
 Feed Resistance 230 Ohms  
 Set Feed Resistance As Priority: 1 (1 = Priority, 0 = No Priority)  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (1 = Priority, 0 = No Priority)  
 Required EUT operating State: Off Hook  
 EUT is Off Hook If Line Current Exceeds: 1m A  
 Resistance To Earth Test Voltage: 100 Vdc  
 Apply Test Voltage To: A-Leg  
 Apply Short Circuit To A And B 0 (1=Short Circuit, 0 = Open Circuit)  
 Test Circuit Polarity Reverse Polarity  
 After Applying Test Condition Wait 30 Secs Before Taking Measurements

|   |  |          |         |          |  |
|---|--|----------|---------|----------|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |          |  |
| <b>Clause: Clause 4.7.3, Resistance To Earth</b>                    |  |          |         |          |  |
| ID  | 4308   | Job No   | 1000281 |          |  |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |          |  |
| Product   | XL-2029IDM;TK4060  |          |         |          |  |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |          |  |
| Purpose Of Test   | To check that the EUT presents a sufficiently high resistance to earth in the loop state |          |         |          |  |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |          |  |
| Operating State   |  |          |         |          |  |
| Test Class  | Formal Test  | Engineer | Jack    |          |  |
| Date & Time   | Wed<br>09/Dec/2009<br>14:59:54   | Temp     |         | Humidity |  |
| <b>Test Details</b>   |  |          |         |          |  |

Measured Resistance Must Be  $\geq 1\text{M Ohms}$   
 Test Lower Resistance Limit: 1 (1 = Test, 0 = Do Not Test)  
 Test Lower Resistance Limit: 0 (1 = Test, 0 = Do Not Test)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured DC Resistance Within 20% Of Lower Test Limit: 2%  
 Measured DC Resistance Within 20% Of Upper Test Limit: N/A

#### TestCondition 3

Test Description B-Leg Normal Polarity  
 Disconnect Feed Bridge 0 (1 = Disconnected, 0 = Connected)  
 DC Feed Voltage 50 Vdc  
 Feed Resistance 230 Ohms  
 Set Feed Resistance As Priority: 1 (1 = Priority, 0 = No Priority)  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (1 = Priority, 0 = No Priority)  
 Required EUT operating State: Off Hook  
 EUT is Off Hook If Line Current Exceeds: 1m A  
 Resistance To Earth Test Voltage: 100 Vdc  
 Apply Test Voltage To: B-Leg  
 Apply Short Circuit To A And B 0 (1=Short Circuit, 0 = Open Circuit)  
 Test Circuit Polarity Normal Polarity  
 After Applying Test Condition Wait 30 Secs Before Taking Measurements  
 Measured Resistance Must Be  $\geq 1\text{M Ohms}$   
 Test Lower Resistance Limit: 1 (1 = Test, 0 = Do Not Test)  
 Test Lower Resistance Limit: 0 (1 = Test, 0 = Do Not Test)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured DC Resistance Within 20% Of Lower Test Limit: 2%  
 Measured DC Resistance Within 20% Of Upper Test Limit: N/A

#### TestCondition 4

Test Description B-Leg Reverse Polarity  
 Disconnect Feed Bridge 0 (1 = Disconnected, 0 = Connected)  
 DC Feed Voltage 50 Vdc  
 Feed Resistance 230 Ohms  
 Set Feed Resistance As Priority: 1 (1 = Priority, 0 = No Priority)  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (1 = Priority, 0 = No Priority)  
 Required EUT operating State: Off Hook

|   |  |                 |         |                 |  |  |  |  |
|---|--|-----------------|---------|-----------------|--|--|--|--|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |                 |         |                 |  |  |  |  |
| <b>Clause: Clause 4.7.3, Resistance To Earth</b>                    |  |                 |         |                 |  |  |  |  |
| <b>ID</b>   | 4308   | <b>Job No</b>   | 1000281 |                 |  |  |  |  |
| <b>Customer</b>   | Xingtel Xiamen Electronics Co.,Ltd   |                 |         |                 |  |  |  |  |
| <b>Product</b>  | XL-2029IDM;TK4060  |                 |         |                 |  |  |  |  |
| <b>Specification</b>  | ETSI ES 203 021-3 v2.1.2 January 2006  |                 |         |                 |  |  |  |  |
| <b>Purpose Of Test</b>  | To check that the EUT presents a sufficiently high resistance to earth in the loop state |                 |         |                 |  |  |  |  |
|   |  |                 |         |                 |  |  |  |  |
| <b>EUT Details</b>  | Sample Number: 0001, Modification State: 00  |                 |         |                 |  |  |  |  |
| <b>Operating State</b>  |  |                 |         |                 |  |  |  |  |
| <b>Test Class</b>   | Formal Test  | <b>Engineer</b> | Jack    |                 |  |  |  |  |
| <b>Date &amp; Time</b>  | Wed<br>09/Dec/2009<br>14:59:54   | <b>Temp</b>     |         | <b>Humidity</b> |  |  |  |  |
|   |  |                 |         |                 |  |  |  |  |
| <b>Test Details</b>   |  |                 |         |                 |  |  |  |  |

EUT is Off Hook If Line Current Exceeds: 1m A  
Resistance To Earth Test Voltage: 100 Vdc  
Apply Test Voltage To: B-Leg  
Apply Short Circuit To A And B 0 (1=Short Circuit, 0 = Open Circuit)  
Test Circuit Polarity Reverse Polarity  
After Applying Test Condition Wait 30 Secs Before Taking Measurements  
Measured Resistance Must Be >= 1M Ohms  
Test Lower Resistance Limit: 1 (1 = Test, 0 = Do Not Test)  
Test Lower Resistance Limit: 0 (1 = Test, 0 = Do Not Test)  
Measurement Uncertainty Information  
Expanded Uncertainty, Coverage Factor K=2  
Measured DC Resistance Within 20% Of Lower Test Limit: 2%  
Measured DC Resistance Within 20% Of Upper Test Limit: N/A

|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.8.2.1, DTMF Signalling Frequency Combinations</b>       |   |          |         |             |    |
| ID  | 4309  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test   | To check whether the EUT sends appropriate DTMF signal frequency combinations |          |         |             |    |
| EUT Details   |   |          |         |             |    |
| Sample Number: 0001, Modification State: 00                         |   |          |         |             |    |
| Operating State   |   |          |         |             |    |
| Test Condition 1: Frequency Combinations                            |   |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:07:12  | Temp( )  | 25      | Humidity(%) | 56 |
| Tested With Auto Test Run (EUT Master): No                          |   |          |         |             |    |
| <b>Test Result</b>  |   |          |         |             |    |

Overall Test Status: Pass

**Test Condition 1, Frequency Combinations**

DC Feed Voltage: 50 Vdc, Feed Resistance 850 Ohms, Feed Circuit Polarity: Normal Polarity  
Terminating Impedance 270R+(750R//0.15uF)

Expected EUT To Dial: 1234567890\*#, EUT Dialed: 1234567890\*#

Dialed Digit Status: Pass

DTMF Digit Coding & Frequencies Must Comply With ITU-T Rec. Q23 With A Frequency Tolerance Of: 1.5 %

## DTMF Digit Coding

| Digits | Low Freq (Hz) | % Dev  | Status | High Freq (Hz) | %Dev   | Status |
|--------|---------------|--------|--------|----------------|--------|--------|
| 1      | 700           | 0.4304 | Pass   | 1204           | 0.4136 | Pass   |
| 2      | 700           | 0.4304 | Pass   | 1333           | 0.2246 | Pass   |
| 3      | 700           | 0.4304 | Pass   | 1473           | 0.2708 | Pass   |
| 4      | 772           | 0.2597 | Pass   | 1204           | 0.4136 | Pass   |
| 5      | 772           | 0.2597 | Pass   | 1333           | 0.2246 | Pass   |
| 6      | 772           | 0.2597 | Pass   | 1473           | 0.2708 | Pass   |
| 7      | 855           | 0.3521 | Pass   | 1204           | 0.4136 | Pass   |
| 8      | 855           | 0.3521 | Pass   | 1333           | 0.2246 | Pass   |
| 9      | 855           | 0.3521 | Pass   | 1473           | 0.2708 | Pass   |
| 0      | 941           | 0      | Pass   | 1333           | 0.2246 | Pass   |
| *      | 941           | 0      | Pass   | 1204           | 0.4136 | Pass   |
| #      | 941           | 0      | Pass   | 1473           | 0.2708 | Pass   |

Low Group Frequency Deviation Status Pass

High Group Frequency Deviation Status Pass

**Test Condition Status: Pass**

|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.8.2.1, DTMF Signalling Frequency Combinations</b>       |   |          |         |             |    |
| ID  | 4309  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test   | To check whether the EUT sends appropriate DTMF signal frequency combinations |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                                   |          |         |             |    |
| Operating State   | Test Condition 1: Frequency Combinations                                      |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:07:12  | Temp( )  | 25      | Humidity(%) | 56 |
| <b>Test Details</b>   |   |          |         |             |    |

## TestCondition 1

Test Description: Frequency Combinations

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set Feed Current As Priority: 0 (0= No Priority, 1 = Priority)

Feed Resistance: 850 Ohms

Set Feed Resistance As Priority: 1 (0 = No Priority, 1= Priority)

Feed Circuit Polarity: Normal Polarity

Feed Circuit Inductance Per Leg: 10H

Feed Bridge DC Block Capacitance Per Leg: 500u F

EUT Is Off Hook When Loop Current Exceeds: 12.8m A

Terminating Impedance Rs: 270 Ohms

Terminating Impedance Rp: 750 Ohms

Terminating Impedance Cp: 0.15u F

Terminating Impedance:  $270R + (750R / 0.15uF)$ 

Artificial Line Used During Test: None

Connect External Analyser During Test: 0 (0 = Do Not Connect, 1 = Connect)

Allowable Frequency Deviation On DTMF Coding: 1.5 %

Test DTMF Coding And Frequencies: 1 (0 = Do Not Test, 1 = Test)

Test Minimum Tone Duration Limit: 0 (0=Do Not Test, 1 = Test)

Test Maximum Tone Duration Limit: 0 (0 = Do Not Test, 1 = Test)

Test Interdigit (Pause) Duration Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Interdigit (Pause) Duration Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duration of Tone + Interdigit (Pause) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duration of Tone + Interdigit (Pause) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duty Cycle (Tone/Pause) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duty Cycle (Tone/Pause) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Threshold For Tone Timing Measurements: 90 % Of Maximum Tone Amplitude

Threshold For Pause Timing Measurements: 10 % Of Maximum Tone Amplitude

Units Used For Tone Level Measurements dBV

Test High Group Minimum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test High Group Maximum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test Low Group Minimum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test Low Group Maximum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test Combined Tone Level Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Combined Tone Level Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Pre-emphasis (Twist) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Pre-emphasis (Twist) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Total Unwanted Power: 0 (0 = Do Not Test, 1 = Test)

|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.8.2.1, DTMF Signalling Frequency Combinations</b>       |   |          |         |             |    |
| ID  | 4309  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test   | To check whether the EUT sends appropriate DTMF signal frequency combinations |          |         |             |    |
|   |   |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                                   |          |         |             |    |
| Operating State   | Test Condition 1: Frequency Combinations                                      |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:07:12  | Temp( )  | 25      | Humidity(%) | 56 |
|   |   |          |         |             |    |
| <b>Test Details</b>   |   |          |         |             |    |

Test Power Levels Of Individual Unwanted Frequency Components: 0 (0 = Do Not Test, 1 = Test)  
 Unwanted Power Levels Limits Are: Relative To Low Group Tone Level  
 Units Used For Measured Power During Interdigit Pause: dBV  
 Test Power Level During Interdigit Pause: 0 (0 = Do Not Test, 1 = Test)  
 Measured Power Level During Interdigit Pause: 1 (0 = Maximum Level Of Individual Frequencies, 1 = Total Power Level In Band)  
 Test Rise Time: 0 (0 = Do Not Test, 1 = Test)  
 Test Fall Time: 0 (0 = Do Not Test, 1 = Test)  
 Enable Special Features: 0 (0 = Do Not Enable, 1 = Enable)  
 Applied Dial Tone: Nominal 400Hz Dial Tone At -10 dBV  
 Dial Tone Cadence 1 Oscillator 1 Frequency: 400 Hz  
 Dial Tone Cadence 1 Oscillator 1 Level: -10 dB  
 Dial Tone Cadence 1 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 1 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 1 On Period: 100m Secs  
 Dial Tone Cadence 1 Off Period: 0 Secs  
 Dial Tone Cadence 2 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 2 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 2 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 2 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 2 On Period: 0 Secs  
 Dial Tone Cadence 2 Off Period: 0 Secs  
 Dial Tone Cadence 3 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 3 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 3 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 3 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 3 On Period: 0 Secs  
 Dial Tone Cadence 3 Off Period: 0 Secs  
 Dial Tone Cadence 4 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 4 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 4 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 4 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 4 On Period: 0 Secs  
 Dial Tone Cadence 4 Off Period: 0 Secs  
 Dial Tone Cadence 5 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 5 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 5 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 5 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 5 On Period: 0 Secs  
 Dial Tone Cadence 5 Off Period: 0 Secs  
 Dial Tone dB reference: dBV  
 Generate Dial Tone Continuously: 1 (0 = Cadenced, 1 = Continuous)  
 Do Not Generate Dial Tone 0 (0 = Generate Dial Tone, 1 = Do Not Generate Dial Tone)

|   |   |          |    |             |    |
|---|---|----------|----|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |    |             |    |
| Clause 4.8.2.1, DTMF Signalling Frequency Combinations              |   |          |    |             |    |
| ID  | 4309  | Job No   |    | 1000281     |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |    |             |    |
| Product   | XL-2029IDM;TK4060   |          |    |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |    |             |    |
| Purpose Of Test   | To check whether the EUT sends appropriate DTMF signal frequency combinations |          |    |             |    |
|   |   |          |    |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                                   |          |    |             |    |
| Operating State   | Test Condition 1: Frequency Combinations                                      |          |    |             |    |
| Test Class  | Formal Test   | Engineer |    | Jack        |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:07:12  | Temp( )  | 25 | Humidity(%) | 56 |
|   |   |          |    |             |    |
| Test Details  |   |          |    |             |    |

Turn Off Dial Tone After First Digit Is Dialed: 1 (0 = Do Not Turn Off Dial Tone, 1 = Turn Off Dial Tone)

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Dial Tone Levels Between -48dB and -37dB: 2.75 dB

Dial Tone Levels Between -37dB and -10dB: 1 dB

Dial Tone Levels Above -10dB: 0.4 dB

Dial Tone Frequencies: 0.1155%

Dial Tone Cadence Timings: 0.1155%

Measured DTMF Timings: 76.21u Secs

Measured DTMF Frequencies: 0.5774Hz

Worst Case DTMF Power Level: 0.15 dB

Unwanted DTMF Power Level: 3.47 dB



Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.8.2.2, DTMF Signalling Levels & Clause 4.8.2.3, Unwanted Frequency Components**

|                 |   |  |         |             |    |
|-----------------|---|--|---------|-------------|----|
| ID              | 4310  | Job No                                     | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |             |    |
| Product         | XL-2029IDM;TK4060   |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |             |    |
| Purpose Of Test | To check whether the EUT sends appropriate DTMF signals at the required signalling levels |  |         |             |    |
|                 |   |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |  |         |             |    |
| Operating State | Test Condition 1: Clause 4.8.2.2 and Clause 4.8.2.3: 2300 Ohms, Normal Polarity           |  |         |             |    |
| Test Class      | Formal Test   | Engineer                                   | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:18:12  | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |             |    |

**Test Result****Overall Test Status: Pass****Test Condition 1, Clause 4.8.2.2 and Clause 4.8.2.3: 2300 Ohms, Normal Polarity**

DC Feed Voltage: 50 Vdc, Feed Resistance 2.3 k Ohms, Feed Circuit Polarity: Normal Polarity  
Terminating Impedance 270R+(750R//0.15uF)

Expected EUT To Dial: 1234567890\*#, EUT Dialed: 1234567890\*#

Dialed Digit Status: Pass

DTMF High Group Tone Level Must Be >= -11.5dBV  
DTMF High Group Tone Levels Must Be <= -7dBV  
DTMF Low Group Tone Levels Must Be >= -13dBV  
DTMF Low Group Tone Levels Must Be <= -8.5dBV  
Twist (pre-emphasis) Must Be >= 1 dB  
Twist (pre-emphasis) Must Be <= 4 dB

## DTMF Tone Power Levels

| Digits | Low (dBV) | Status | High (dBV) | Status | Twist (dB) | Status |
|--------|-----------|--------|------------|--------|------------|--------|
| 1      | -9.54     | Pass   | -8.111     | Pass   | 1.429      | Pass   |
| 2      | -9.526    | Pass   | -8.108     | Pass   | 1.418      | Pass   |
| 3      | -9.516    | Pass   | -8.307     | Pass   | 1.208      | Pass   |
| 4      | -9.612    | Pass   | -8.11      | Pass   | 1.502      | Pass   |
| 5      | -9.605    | Pass   | -8.112     | Pass   | 1.493      | Pass   |
| 6      | -9.596    | Pass   | -8.308     | Pass   | 1.288      | Pass   |
| 7      | -9.932    | Pass   | -8.105     | Pass   | 1.827      | Pass   |
| 8      | -9.931    | Pass   | -8.112     | Pass   | 1.819      | Pass   |
| 9      | -9.926    | Pass   | -8.311     | Pass   | 1.615      | Pass   |
| 0      | -9.571    | Pass   | -8.111     | Pass   | 1.46       | Pass   |
| *      | -9.577    | Pass   | -8.108     | Pass   | 1.468      | Pass   |
| #      | -9.562    | Pass   | -8.31      | Pass   | 1.252      | Pass   |

Low Group Tone Levels Status: PassHigh Group Tone Levels Status: PassTwist (Pre-emphasis) Status: Pass

Total Unwanted Power Must Be At Least 20dB Below Low Group Tone Levels

Unwanted Power Measured In The Frequency Band: 250 Hz, To 4.3k Hz

|  |   |  |    |             |    |
|--|---|--|----|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)                    |   |  |    |             |    |
| Clause 4.8.2.2, DTMF Signalling Levels & Clause 4.8.2.3, Unwanted Frequency Components |   |  |    |             |    |
| ID   | 4310  | Job No                                     |    | 1000281     |    |
| Customer   | Xingtel Xiamen Electronics Co.,Ltd  |  |    |             |    |
| Product  | XL-2029IDM;TK4060   |  |    |             |    |
| Specification  | ETSI ES 203 021-3 v2.1.2 January 2006   |  |    |             |    |
| Purpose Of Test  | To check whether the EUT sends appropriate DTMF signals at the required signalling levels |  |    |             |    |
|  |   |  |    |             |    |
| EUT Details  | Sample Number: 0001, Modification State: 00   |  |    |             |    |
| Operating State  | Test Condition 1: Clause 4.8.2.2 and Clause 4.8.2.3: 2300 Ohms, Normal Polarity           |  |    |             |    |
| Test Class   | Formal Test   | Engineer                                   |    | Jack        |    |
| Date & Time  | Wed<br>09/Dec/2009<br>15:18:12  | Temp( )                                    | 25 | Humidity(%) | 56 |
|  |   | Tested With Auto Test Run (EUT Master): No |    |             |    |
|  |   |  |    |             |    |
| Test Result  |   |  |    |             |    |

**Overall Test Status: Pass**

## Unwanted Power Levels During DTMF Tone Generation

| Digits | Total (dBV) | Status |
|--------|-------------|--------|
| 1      | -38.39      | Pass   |
| 2      | -39.38      | Pass   |
| 3      | -40.7       | Pass   |
| 4      | -37.81      | Pass   |
| 5      | -38.8       | Pass   |
| 6      | -40.67      | Pass   |
| 7      | -37.52      | Pass   |
| 8      | -37.94      | Pass   |
| 9      | -39.06      | Pass   |
| 0      | -37.97      | Pass   |
| *      | -37         | Pass   |
| #      | -38.77      | Pass   |

Total Unwanted Power Status: PassTest Condition Status: Pass

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

|  |   |          |    |             |    |
|--|---|----------|----|-------------|----|
| Clause 4.8.2.2, DTMF Signalling Levels & Clause 4.8.2.3, Unwanted Frequency Components |   |          |    |             |    |
| ID   | 4310  | Job No   |    | 1000281     |    |
| Customer   | Xingtel Xiamen Electronics Co.,Ltd  |          |    |             |    |
| Product  | XL-2029IDM;TK4060   |          |    |             |    |
| Specification  | ETSI ES 203 021-3 v2.1.2 January 2006   |          |    |             |    |
| Purpose Of Test  | To check whether the EUT sends appropriate DTMF signals at the required signalling levels |          |    |             |    |
|  |   |          |    |             |    |
| EUT Details  | Sample Number: 0001, Modification State: 00   |          |    |             |    |
| Operating State  | Test Condition 1: Clause 4.8.2.2 and Clause 4.8.2.3: 2300 Ohms, Normal Polarity           |          |    |             |    |
| Test Class   | Formal Test   | Engineer |    | Jack        |    |
| Date & Time  | Wed<br>09/Dec/2009<br>15:18:12  | Temp( )  | 25 | Humidity(%) | 56 |
|  |   |          |    |             |    |
| Test Details   |   |          |    |             |    |

## TestCondition 1

Test Description: Clause 4.8.2.2 and Clause 4.8.2.3: 2300 Ohms, Normal Polarity

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set Feed Current As Priority: 0 (0= No Priority, 1 = Priority)

Feed Resistance: 2.3k Ohms

Set Feed Resistance As Priority: 1 (0 = No Priority, 1= Priority)

Feed Circuit Polarity: Normal Polarity

Feed Circuit Inductance Per Leg: 10H

Feed Bridge DC Block Capacitance Per Leg: 500u F

EUT Is Off Hook When Loop Current Exceeds: 12.8m A

Terminating Impedance Rs: 270 Ohms

Terminating Impedance Rp: 750 Ohms

Terminating Impedance Cp: 0.15u F

Terminating Impedance: 270R+(750R//0.15uF)

Artificial Line Used During Test: None

Connect External Analyser During Test: 0 (0 = Do Not Connect, 1 = Connect)

Test DTMF Coding And Frequencies: 0 (0 = Do Not Test, 1 = Test)

Test Minimum Tone Duration Limit: 0 (0=Do Not Test, 1 = Test)

Test Maximum Tone Duration Limit: 0 (0 = Do Not Test, 1 = Test)

Test Interdigit (Pause) Duration Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Interdigit (Pause) Duration Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duration of Tone + Interdigit (Pause) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duration of Tone + Interdigit (Pause) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duty Cycle (Tone/Pause) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duty Cycle (Tone/Pause) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Threshold For Tone Timing Measurements: 90 % Of Maximum Tone Amplitude

Threshold For Pause Timing Measurements: 10 % Of Maximum Tone Amplitude

High Group Tone Level Must Be  $\geq -11.5\text{dBV}$

High Group Tone Level Must Be  $\leq -7\text{dBV}$

Low Group Tone Level Must Be  $\geq -13\text{dBV}$

Low Group Tone Level Must Be  $\leq -8.5\text{dBV}$

Pre-emphasis (Twist) Between Tones Must Be  $\geq 1$

Pre-emphasis (Twist) Between Tones Must Be  $\leq 4$

Units Used For Tone Level Measurements dBV

Test High Group Minimum Level Limit: 1 (0 = Do Not Test, 1 = Test)

Test High Group Maximum Level Limit: 1 (0 = Do Not Test, 1 = Test)

Test Low Group Minimum Level Limit: 1 (0 = Do Not Test, 1 = Test)

|   |   |          |    |             |    |
|---|---|----------|----|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)                               |   |          |    |             |    |
| <b>Clause 4.8.2.2, DTMF Signalling Levels &amp; Clause 4.8.2.3, Unwanted Frequency Components</b> |   |          |    |             |    |
| ID  | 4310  | Job No   |    | 1000281     |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |    |             |    |
| Product   | XL-2029IDM;TK4060   |          |    |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |    |             |    |
| Purpose Of Test   | To check whether the EUT sends appropriate DTMF signals at the required signalling levels |          |    |             |    |
|   |   |          |    |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |    |             |    |
| Operating State   | Test Condition 1: Clause 4.8.2.2 and Clause 4.8.2.3: 2300 Ohms, Normal Polarity           |          |    |             |    |
| Test Class  | Formal Test   | Engineer |    | Jack        |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:18:12  | Temp( )  | 25 | Humidity(%) | 56 |
|   |   |          |    |             |    |
| <b>Test Details</b>   |   |          |    |             |    |

Test Low Group Maximum Level Limit: 1 (0 = Do Not Test, 1 = Test)  
 Test Combined Tone Level Minimum Limit: 0 (0 = Do Not Test, 1 = Test)  
 Test Combined Tone Level Maximum Limit: 0 (0 = Do Not Test, 1 = Test)  
 Test Pre-emphasis (Twist) Minimum Limit: 1 (0 = Do Not Test, 1 = Test)  
 Test Pre-emphasis (Twist) Maximum Limit: 1 (0 = Do Not Test, 1 = Test)  
 Minimum Frequency Band For Unwanted Power Measurements: 250 Hz  
 Maximum Frequency Band For Unwanted Power Measurements: 4.3k Hz  
 Total Unwanted Power In Band Must Be Less Than: -20 dB  
 Test Total Unwanted Power: 1 (0 = Do Not Test, 1 = Test)  
 Test Power Levels Of Individual Unwanted Frequency Components: 0 (0 = Do Not Test, 1 = Test)  
 Unwanted Power Levels Limits Are: Relative To Low Group Tone Level  
 Test Power Level During Interdigit Pause: 0 (0 = Do Not Test, 1 = Test)  
 Measured Power Level During Interdigit Pause: 1 (0 = Maximum Level Of Individual Frequencies, 1 = Total Power Level In Band)  
 Reference Impedance For dBm Measurements: 600 Ohms  
 Reference Voltage Level For dBV Measurements: 1 Vrms  
 Test Rise Time: 0 (0 = Do Not Test, 1 = Test)  
 Test Fall Time: 0 (0 = Do Not Test, 1 = Test)  
 Enable Special Features: 0 (0 = Do Not Enable, 1 = Enable)  
 Applied Dial Tone: Nominal 400Hz Dial Tone At -10 dBV  
 Dial Tone Cadence 1 Oscillator 1 Frequency: 400 Hz  
 Dial Tone Cadence 1 Oscillator 1 Level: -10 dB  
 Dial Tone Cadence 1 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 1 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 1 On Period: 100m Secs  
 Dial Tone Cadence 1 Off Period: 0 Secs  
 Dial Tone Cadence 2 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 2 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 2 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 2 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 2 On Period: 0 Secs  
 Dial Tone Cadence 2 Off Period: 0 Secs  
 Dial Tone Cadence 3 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 3 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 3 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 3 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 3 On Period: 0 Secs  
 Dial Tone Cadence 3 Off Period: 0 Secs  
 Dial Tone Cadence 4 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 4 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 4 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 4 Oscillator 2 Level: -70 dB

|   |   |          |    |             |    |
|---|---|----------|----|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)                               |   |          |    |             |    |
| <b>Clause 4.8.2.2, DTMF Signalling Levels &amp; Clause 4.8.2.3, Unwanted Frequency Components</b> |   |          |    |             |    |
| ID  | 4310  | Job No   |    | 1000281     |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |    |             |    |
| Product   | XL-2029IDM;TK4060   |          |    |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |    |             |    |
| Purpose Of Test   | To check whether the EUT sends appropriate DTMF signals at the required signalling levels |          |    |             |    |
|   |   |          |    |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |    |             |    |
| Operating State   | Test Condition 1: Clause 4.8.2.2 and Clause 4.8.2.3: 2300 Ohms, Normal Polarity           |          |    |             |    |
| Test Class  | Formal Test   | Engineer |    | Jack        |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:18:12  | Temp( )  | 25 | Humidity(%) | 56 |
|   |   |          |    |             |    |
| <b>Test Details</b>   |   |          |    |             |    |

Dial Tone Cadence 4 On Period: 0 Secs  
 Dial Tone Cadence 4 Off Period: 0 Secs  
 Dial Tone Cadence 5 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 5 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 5 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 5 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 5 On Period: 0 Secs  
 Dial Tone Cadence 5 Off Period: 0 Secs  
 Dial Tone dB reference: dBV  
 Generate Dial Tone Continuously: 1 (0 = Cadenced, 1 = Continuous)  
 Do Not Generate Dial Tone 0 (0 = Generate Dial Tone, 1 = Do Not Generate Dial Tone)  
 Turn Off Dial Tone After First Digit Is Dialed: 1 (0 = Do Not Turn Off Dial Tone, 1 = Turn Off Dial Tone)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Dial Tone Levels Between -48dB and -37dB: 2.75 dB  
 Dial Tone Levels Between -37dB and -10dB: 1 dB  
 Dial Tone Levels Above -10dB: 0.4 dB  
 Dial Tone Frequencies: 0.1155%  
 Dial Tone Cadence Timings: 0.1155%  
 Measured DTMF Timings: 76.21u Secs  
 Measured DTMF Frequencies: 0.5774Hz  
 Worst Case DTMF Power Level: 0.14 dB  
 Unwanted DTMF Power Level: 3.82 dB

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.8.2.4, DTMF Tone Duration & Clause 4.8.2.5, DTMF Pause Duration**

|                 |   |  |         |              |    |
|-----------------|---|--|---------|--------------|----|
| ID              | 4311  | Job No                                     | 1000281 |              |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |  |         |              |    |
| Product         | XL-2029IDM;TK4060   |  |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |  |         |              |    |
| Purpose Of Test | To check whether the TE sends DTMF signals with the appropriate pauses            |  |         |              |    |
|                 |   |  |         |              |    |
| EUT Details     | Sample Number: 0001, Modification State: 00                                       |  |         |              |    |
| Operating State | Test Condition 1: Clause 4.8.2.4 and Clause 4.8.2.5: DTMF Tone and Pause Duration |  |         |              |    |
| Test Class      | Formal Test   | Engineer                                   | Jack    |              |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:31:11  | Temp ( )                                   | 25      | Humidity (%) | 56 |
|                 |   | Tested With Auto Test Run (EUT Master): No |         |              |    |
|                 |   |  |         |              |    |
| Test Result     |   |  |         |              |    |

Overall Test Status: Pass

**Test Condition 1, Clause 4.8.2.4 and Clause 4.8.2.5: DTMF Tone and Pause Duration**

DC Feed Voltage: 50 Vdc, Feed Resistance 850 Ohms, Feed Circuit Polarity: Normal Polarity  
Terminating Impedance 270R+(750R//0.15uF)

Expected EUT To Dial: 1234567890\*#, EUT Dialed: 1234567890\*#

Dialed Digit Status: Pass

DTMF Tone Duration Must Be >= 65m Secs  
Interdigit Pause Duration Must Be >= 65m Secs

## DTMF Digit Timing

| Digits | Tone (S) | Status | Pause (S) | Status |
|--------|----------|--------|-----------|--------|
| 1      | 95.47m   | Pass   | 82.13m    | Pass   |
| 2      | 98.13m   | Pass   | 88.33m    | Pass   |
| 3      | 91.33m   | Pass   | 82.67m    | Pass   |
| 4      | 96.67m   | Pass   | 88.8m     | Pass   |
| 5      | 97.53m   | Pass   | 80.4m     | Pass   |
| 6      | 96.67m   | Pass   | 86.93m    | Pass   |
| 7      | 96.07m   | Pass   | 82.33m    | Pass   |
| 8      | 97.33m   | Pass   | 89.33m    | Pass   |
| 9      | 96.6m    | Pass   | 76.67m    | Pass   |
| 0      | 98.07m   | Pass   | 76.47m    | Pass   |
| *      | 98.8m    | Pass   | 87.73m    | Pass   |
| #      | 96.33m   | Pass   |           |        |

Tone Duration Status: PassInterdigit Duration Status: PassTest Condition Status: Pass

|   |   |          |         |              |    |
|---|---|----------|---------|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)                 |   |          |         |              |    |
| <b>Clause 4.8.2.4, DTMF Tone Duration &amp; Clause 4.8.2.5, DTMF Pause Duration</b> |   |          |         |              |    |
| ID  | 4311  | Job No   | 1000281 |              |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |              |    |
| Product   | XL-2029IDM;TK4060   |          |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |              |    |
| Purpose Of Test   | To check whether the TE sends DTMF signals with the appropriate pauses            |          |         |              |    |
| EUT Details   | Sample Number: 0001, Modification State: 00                                       |          |         |              |    |
| Operating State   | Test Condition 1: Clause 4.8.2.4 and Clause 4.8.2.5: DTMF Tone and Pause Duration |          |         |              |    |
| Test Class  | Formal Test   | Engineer | Jack    |              |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:31:11  | Temp ( ) | 25      | Humidity (%) | 56 |
| <b>Test Details</b>   |   |          |         |              |    |

## TestCondition 1

Test Description: Clause 4.8.2.4 and Clause 4.8.2.5: DTMF Tone and Pause Duration

DC Feed Voltage: 50 Vdc

DC Feed Current: 100m A

Set Feed Current As Priority: 0 (0= No Priority, 1 = Priority)

Feed Resistance: 850 Ohms

Set Feed Resistance As Priority: 1 (0 = No Priority, 1= Priority)

Feed Circuit Polarity: Normal Polarity

Feed Circuit Inductance Per Leg: 10H

Feed Bridge DC Block Capacitance Per Leg: 500u F

EUT Is Off Hook When Loop Current Exceeds: 12.8m A

Terminating Impedance Rs: 270 Ohms

Terminating Impedance Rp: 750 Ohms

Terminating Impedance Cp: 0.15u F

Terminating Impedance:  $270R + (750R / 0.15uF)$ 

Artificial Line Used During Test: None

Connect External Analyser During Test: 0 (0 = Do Not Connect, 1 = Connect)

Test DTMF Coding And Frequencies: 0 (0 = Do Not Test, 1 = Test)

Tone Duration Must Be  $\geq$  65m Secs

Test Minimum Tone Duration Limit: 1 (0=Do Not Test, 1 = Test)

Test Maximum Tone Duration Limit: 0 (0 = Do Not Test, 1 = Test)

Interdigit (Pause) Duration Must Be  $\geq$  65m Secs

Test Interdigit (Pause) Duration Minimum Limit: 1 (0 = Do Not Test, 1 = Test)

Test Interdigit (Pause) Duration Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duration of Tone + Interdigit (Pause) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duration of Tone + Interdigit (Pause) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duty Cycle (Tone/Pause) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Duty Cycle (Tone/Pause) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Threshold For Tone Timing Measurements: 90 % Of Maximum Tone Amplitude

Threshold For Pause Timing Measurements: 10 % Of Maximum Tone Amplitude

Units Used For Tone Level Measurements dBV

Test High Group Minimum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test High Group Maximum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test Low Group Minimum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test Low Group Maximum Level Limit: 0 (0 = Do Not Test, 1 = Test)

Test Combined Tone Level Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Combined Tone Level Maximum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Pre-emphasis (Twist) Minimum Limit: 0 (0 = Do Not Test, 1 = Test)

Test Pre-emphasis (Twist) Maximum Limit: 0 (0 = Do Not Test, 1 = Test)



|   |  |          |         |              |    |
|---|--|----------|---------|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)                 |  |          |         |              |    |
| <b>Clause 4.8.2.4, DTMF Tone Duration &amp; Clause 4.8.2.5, DTMF Pause Duration</b> |  |          |         |              |    |
| ID  | 4311   | Job No   | 1000281 |              |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd                                     |          |         |              |    |
| Product   | XL-2029IDM;TK4060  |          |         |              |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006                                  |          |         |              |    |
| Purpose Of Test   | To check whether the TE sends DTMF signals with the appropriate pauses |          |         |              |    |
| EUT Details   |  |          |         |              |    |
| Sample Number: 0001, Modification State: 00   |  |          |         |              |    |
| Operating State   |  |          |         |              |    |
| Test Condition 1: Clause 4.8.2.4 and Clause 4.8.2.5: DTMF Tone and Pause Duration   |  |          |         |              |    |
| Test Class  | Formal Test  | Engineer | Jack    |              |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:31:11   | Temp ( ) | 25      | Humidity (%) | 56 |
| <b>Test Details</b>   |  |          |         |              |    |

Test Total Unwanted Power: 0 (0 = Do Not Test, 1 = Test)

Test Power Levels Of Individual Unwanted Frequency Components: 0 (0 = Do Not Test, 1 = Test)

Unwanted Power Levels Limits Are: Relative To Low Group Tone Level

Units Used For Measured Power During Interdigit Pause: dBV

Test Power Level During Interdigit Pause: 0 (0 = Do Not Test, 1 = Test)

Measured Power Level During Interdigit Pause: 1 (0 = Maximum Level Of Individual Frequencies, 1 = Total Power Level In Band)

Test Rise Time: 0 (0 = Do Not Test, 1 = Test)

Test Fall Time: 0 (0 = Do Not Test, 1 = Test)

Enable Special Features: 0 (0 = Do Not Enable, 1 = Enable)

Applied Dial Tone: Nominal 400Hz Dial Tone At -10 dBV

Dial Tone Cadence 1 Oscillator 1 Frequency: 400 Hz

Dial Tone Cadence 1 Oscillator 1 Level: -10 dB

Dial Tone Cadence 1 Oscillator 2 Frequency: 0 Hz

Dial Tone Cadence 1 Oscillator 2 Level: -70 dB

Dial Tone Cadence 1 On Period: 100m Secs

Dial Tone Cadence 1 Off Period: 0 Secs

Dial Tone Cadence 2 Oscillator 1 Frequency: 0 Hz

Dial Tone Cadence 2 Oscillator 1 Level: -70 dB

Dial Tone Cadence 2 Oscillator 2 Frequency: 0 Hz

Dial Tone Cadence 2 Oscillator 2 Level: -70 dB

Dial Tone Cadence 2 On Period: 0 Secs

Dial Tone Cadence 2 Off Period: 0 Secs

Dial Tone Cadence 3 Oscillator 1 Frequency: 0 Hz

Dial Tone Cadence 3 Oscillator 1 Level: -70 dB

Dial Tone Cadence 3 Oscillator 2 Frequency: 0 Hz

Dial Tone Cadence 3 Oscillator 2 Level: -70 dB

Dial Tone Cadence 3 On Period: 0 Secs

Dial Tone Cadence 3 Off Period: 0 Secs

Dial Tone Cadence 4 Oscillator 1 Frequency: 0 Hz

Dial Tone Cadence 4 Oscillator 1 Level: -70 dB

Dial Tone Cadence 4 Oscillator 2 Frequency: 0 Hz

Dial Tone Cadence 4 Oscillator 2 Level: -70 dB

Dial Tone Cadence 4 On Period: 0 Secs

Dial Tone Cadence 4 Off Period: 0 Secs

Dial Tone Cadence 5 Oscillator 1 Frequency: 0 Hz

Dial Tone Cadence 5 Oscillator 1 Level: -70 dB

Dial Tone Cadence 5 Oscillator 2 Frequency: 0 Hz

Dial Tone Cadence 5 Oscillator 2 Level: -70 dB

Dial Tone Cadence 5 On Period: 0 Secs

Dial Tone Cadence 5 Off Period: 0 Secs

Dial Tone dB reference: dBV

Generate Dial Tone Continuously: 1 (0 = Cadenced, 1 = Continuous)



|  |   |          |    |              |    |
|--|---|----------|----|--------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)      |   |          |    |              |    |
| Clause 4.8.2.4, DTMF Tone Duration & Clause 4.8.2.5, DTMF Pause Duration |   |          |    |              |    |
| ID   | 4311  | Job No   |    | 1000281      |    |
| Customer   | Xingtel Xiamen Electronics Co.,Ltd  |          |    |              |    |
| Product  | XL-2029IDM;TK4060   |          |    |              |    |
| Specification  | ETSI ES 203 021-3 v2.1.2 January 2006   |          |    |              |    |
| Purpose Of Test  | To check whether the TE sends DTMF signals with the appropriate pauses            |          |    |              |    |
|  |   |          |    |              |    |
| EUT Details  | Sample Number: 0001, Modification State: 00                                       |          |    |              |    |
| Operating State  | Test Condition 1: Clause 4.8.2.4 and Clause 4.8.2.5: DTMF Tone and Pause Duration |          |    |              |    |
| Test Class   | Formal Test   | Engineer |    | Jack         |    |
| Date & Time  | Wed<br>09/Dec/2009<br>15:31:11  | Temp ( ) | 25 | Humidity (%) | 56 |
|  |   |          |    |              |    |
| Test Details   |   |          |    |              |    |

Do Not Generate Dial Tone 0 (0 = Generate Dial Tone, 1 = Do Not Generate Dial Tone)  
 Turn Off Dial Tone After First Digit Is Dialed: 1 (0 = Do Not Turn Off Dial Tone, 1 = Turn Off Dial Tone)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Dial Tone Levels Between -48dB and -37dB: 2.75 dB  
 Dial Tone Levels Between -37dB and -10dB: 1 dB  
 Dial Tone Levels Above -10dB: 0.4 dB  
 Dial Tone Frequencies: 0.1155%  
 Dial Tone Cadence Timings: 0.1155%  
 Measured DTMF Timings: 76.21u Secs  
 Measured DTMF Frequencies: 0.5774Hz  
 Worst Case DTMF Power Level: 0.13 dB  
 Unwanted DTMF Power Level: 5.79 dB

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.8.3, Pulse dialling**

|                 |   |          |         |             |    |
|-----------------|---|----------|---------|-------------|----|
| ID              | 4312  | Job No   | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product         | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test | To confirm that the TE supplier should provide information on how to select the LD mode and how to set any relevant user accessible parameters. |          |         |             |    |
|                 |   |          |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State | During the dialling condition.  |          |         |             |    |
| Test Class      | Formal Test   | Engineer | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:46:32  | Temp( )  | 25      | Humidity(%) | 56 |
|                 | Tested With Auto Test Run (EUT Master): No  |          |         |             |    |
|                 |   |          |         |             |    |
| Test Result     |   |          |         |             |    |

Overall Test Status: Pass

**Test Condition 1, Loop State to pulse dialling**

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 1.0k Ohms  
 The pulsing speed is 10 pulses periods per second.

**Test Result: Pass****Test Condition 2, Loop State to pulse dialling**

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 2050 Ohms  
 The loop current during the make period is 42.2 mA.

**Test Result: Pass****Test Condition 3, Loop State to pulse dialling**

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 500 Ohms  
 The break period current is 0.5 mA.

**Test Result: Pass****Test Condition 4, Loop State to pulse dialling**

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 1.0k Ohms  
 The break period is 69%.

**Test Result: Pass****Test Condition 5, Loop State to pulse dialling**

|   |   |          |         |             |    |
|---|---|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |   |          |         |             |    |
| <b>Clause 4.8.3, Pulse dialling</b>                                 |   |          |         |             |    |
| ID  | 4312  | Job No   | 1000281 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd  |          |         |             |    |
| Product   | XL-2029IDM;TK4060   |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006   |          |         |             |    |
| Purpose Of Test   | To confirm that the TE supplier should provide information on how to select the LD mode and how to set any relevant user accessible parameters. |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00   |          |         |             |    |
| Operating State   | During the dialling condition.  |          |         |             |    |
| Test Class  | Formal Test   | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:46:32  | Temp( )  | 25      | Humidity(%) | 56 |
| Tested With Auto Test Run (EUT Master): No                          |   |          |         |             |    |
| <b>Test Result</b>  |   |          |         |             |    |

Overall Test Status: Pass

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 1.0k Ohms  
 The transition from break to make is completed within 2 ms.  
 The pulse shape comply with the characteristics of the TE.

Test Result: Pass**Test Condition 6, Loop State to pulse dialling**

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 1.0k Ohms  
 The code comply with the characteristics of the TE.

Test Result: Pass**Test Condition 7, Loop State to pulse dialling**

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 1.0k Ohms  
 The inter-digit pulse is 880 ms.

Test Result: Pass**Test Condition 8, Loop State to pulse dialling**

Measurement Type: pulse dialling  
 DC Feed Voltage: 50 Vdc, DC Feed Resistance: 1.0k Ohms  
 The pre-digit and post-digit pulse comply with the characteristics of the TE.

Test Result: Pass

*Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)***Clause 4.8.4, Recall Signal**

|                 |  |  |         |             |    |
|-----------------|--|--|---------|-------------|----|
| ID              | 4283   | Job No                                     | 1000281 |             |    |
| Customer        | Primatronix Ltd  |  |         |             |    |
| Product         | Telephone  |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |         |             |    |
| Purpose Of Test | To confirm that the characteristics of the recall signal meet the requirements of the specification. |  |         |             |    |
|                 |  |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |  |         |             |    |
| Operating State | Test Condition 1: Recall Signal, Normal Polarity   |  |         |             |    |
| Test Class      | Formal Test  | Engineer                                   |         | Jack        |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:37:24   | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |             |    |
|                 |  |  |         |             |    |
| Test Result     |  |  |         |             |    |

**Overall Test Status: Pass****Test Condition, Loop State**

Measurement Type: On Hook To Off Hook

DC Feed Voltage: 50 Vdc, DC Feed Resistance: 1.0k Ohms

The break period shall be measured from the point where the current has fallen to 10% below the loop condition current to the point where the break current has increased to above 1mA from its lowest value: 100.5 mSecs

The break period current is less than 1mA.

The transition from break to make is completed within 2 ms.

The pulse shape comply with the characteristics of the TE

**Test Result: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.8.5, Call attempt on a low voltage line**

|                 |  |  |         |             |    |
|-----------------|--|--|---------|-------------|----|
| ID              | 4313   | Job No                                     | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |  |         |             |    |
| Product         | XL-2029IDM;TK4060  |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |         |             |    |
| Purpose Of Test | To check whether, after seizure, the EUT starts dialling within the allowed period after the start of the dial tone.                       |  |         |             |    |
|                 |  |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |  |         |             |    |
| Operating State | Type Of EUT: Loop Disconnect (Pulse) Dialling - Digit n = n pulses (normal coding), Test Condition : Dial Tone: 300Hz, -0.7dBV, Continuous |  |         |             |    |
| Test Class      | Formal Test  | Engineer                                   | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>15:56:03   | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |             |    |

**Test Result****Overall Test Status: Pass****Test Condition , Dial Tone: 300Hz, -0.7dBV, Continuous**

Applied Dial Tone: ES 203021-3 Continuous 300Hz Dial Tone At -0.7dBV  
 DC Feed Voltage: 38 Vdc, DC Feed Resistance: 750 Ohms  
 Dial Tone Applied 1 Secs After Line Seizure  
 EUT Must Dial Within 8 Secs After Start Of Dial Tone

**Summary Of Telephone Numbers Dialed**

1234567890\*#

**Attempts**

1

**Call Details**

Call Attempt Number 1  
 EUT Seized Telephone Line At: 15:04:32 AM  
 EUT Dialed Telephone Number: 1  
 EUT Started Dialling 5.699 Secs After Start Of Dial Tone

**Status****Pass****Test Condition Status: Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.8.5, Call attempt on a low voltage line**

|                        |  |                    |         |
|------------------------|--|--------------------|---------|
| <b>ID</b>              | 4313   | <b>Job No</b>      | 1000273 |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd   |                    |         |
| <b>Product</b>         | XL-2029IDM;TK4060  |                    |         |
| <b>Specification</b>   | ETSI ES 203 021-3 v2.1.2 January 2006  |                    |         |
| <b>Purpose Of Test</b> | To check whether, after seizure, the EUT starts dialling within 8 seconds with a low voltage line.   |                    |         |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00  |                    |         |
| <b>Operating State</b> | Type Of EUT: Loop Disconnect (Pulse) Dialling - Digit n = n pulses (normal coding), Test Condition : Dial Tone: 300Hz, -0.7dBV, Continuous |                    |         |
| <b>Test Class</b>      | Formal Test  | <b>Engineer</b>    | Jack    |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>15:56:03   | <b>Temp( )</b>     | 25      |
|                        |  | <b>Humidity(%)</b> | 56      |

**Test Details**

## TestCondition

Test Description: Dial Tone: 300Hz, -0.7dBV, Continuous  
 DC Feed Voltage: 38 Vdc  
 DC Feed Current: 100m A  
 Set DC Feed Current As Priority: 0 (0 = Do not set, 1 = set)  
 Feed Resistance: 750 Ohms  
 Set Feed Resistance As Priority 1 (0 = Do Not Set, 1 = Set)  
 Feed Circuit Polarity: Normal Polarity  
 Feed Circuit Inductance Per Leg: 10H  
 EUT Is Off Hook When Loop Current Exceeds: 5m A  
 Terminating Impedance Rs: 270 Ohms  
 Terminating Impedance Rp: 750 Ohms  
 Terminating Impedance Cp: 0.15u F  
 Terminating Impedance: 270R+(750R/0.15uF)  
 Apply Line Seizure & Dialling Tests: 1 (0 = Do Not Apply, 1 = Apply)  
 Type Of Dialling Test: EUT Must Dial  
 Applied Dial Tone: ES 203021-3 Continuous 300Hz Dial Tone At -0.7dBV  
 Time To Apply Dial Tone: Dial Tone Applied 1 Secs After Line Seizure  
 Turn Off Dial Tone: 0 (0 = Dial Tone Generated, 1 = No Dial Tone Generated)  
 Dial Tone Level Adjusted By: 0 dB  
 Apply EUT Must Not Dial Limit: 0 (0 = Do Not Apply, 1 = Apply)  
 EUT Must Dial Limits: EUT Must Dial Within 8 Secs After Start Of Dial Tone  
 Apply EUT Must Dial Limit: 1 (0 = Do Not Apply, 1 = Apply)  
 Apply Line Release Tests: 0 (0 = Do Not Apply, 1 = Apply)  
 Turn Off Call Progress Tone: 0 (0 = Call Progress Tone Turned On, 1 = Call Progress Tone Turned Off)  
 Call Progress Tone Level Adjusted By: 0 dB  
 Apply Repeat Attempts Tests: 0 (0 = Do Not Apply, 1 = Apply)  
 Applied Dial Tone: TBR21 Continuous 300Hz Dial Tone At -0.7dBV  
 Dial Tone Cadence 1 Oscillator 1 Frequency: 300 Hz  
 Dial Tone Cadence 1 Oscillator 1 Level: -0.7 dB  
 Dial Tone Cadence 1 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 1 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 1 On Period: 100m Secs  
 Dial Tone Cadence 1 Off Period: 0 Secs  
 Dial Tone Cadence 2 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 2 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 2 Oscillator 2 Frequency: 0 Hz

|   |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |             |    |
| <b>Clause 4.8.5, Call attempt on a low voltage line</b>             |  |          |         |             |    |
| ID  | 4313   | Job No   | 1000273 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To check whether, after seizure, the EUT starts dialling within 8 seconds with a low voltage line.   |          |         |             |    |
|   |  |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State   | Type Of EUT: Loop Disconnect (Pulse) Dialling - Digit n = n pulses (normal coding), Test Condition : Dial Tone: 300Hz, -0.7dBV, Continuous |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:56:03   | Temp( )  | 25      | Humidity(%) | 56 |
|   |  |          |         |             |    |
| <b>Test Details</b>   |  |          |         |             |    |

Dial Tone Cadence 2 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 2 On Period: 0 Secs  
 Dial Tone Cadence 2 Off Period: 0 Secs  
 Dial Tone Cadence 3 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 3 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 3 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 3 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 3 On Period: 0 Secs  
 Dial Tone Cadence 3 Off Period: 0 Secs  
 Dial Tone Cadence 4 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 4 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 4 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 4 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 4 On Period: 0 Secs  
 Dial Tone Cadence 4 Off Period: 0 Secs  
 Dial Tone Cadence 5 Oscillator 1 Frequency: 0 Hz  
 Dial Tone Cadence 5 Oscillator 1 Level: -70 dB  
 Dial Tone Cadence 5 Oscillator 2 Frequency: 0 Hz  
 Dial Tone Cadence 5 Oscillator 2 Level: -70 dB  
 Dial Tone Cadence 5 On Period: 0 Secs  
 Dial Tone Cadence 5 Off Period: 0 Secs  
 Dial Tone dB reference: dBV  
 Generate Dial Tone Continuously: 1 (0 = Cadenced, 1 = Continuous)  
 Call Progress Tone Cadence 1 Oscillator 1 Frequency: 400 Hz  
 Call Progress Tone Cadence 1 Oscillator 1 Level: -10 dB  
 Call Progress Tone Cadence 1 Oscillator 2 Frequency: 0 Hz  
 Call Progress Tone Cadence 1 Oscillator 2 Level: -70 dB  
 Call Progress Tone Cadence 1 On Period: 0.5 Secs  
 Call Progress Tone Cadence 1 Off Period: 0.5 Secs  
 Call Progress Tone Cadence 2 Oscillator 1 Frequency: 0 Secs  
 Call Progress Tone Cadence 2 Oscillator 1 Level: -70 dB  
 Call Progress Tone Cadence 2 Oscillator 2 Frequency: 0 Hz  
 Call Progress Tone Cadence 2 Oscillator 2 Level: -70 dB  
 Call Progress Tone Cadence 2 On Period: 0 Secs  
 Call Progress Tone Cadence 2 Off Period: 0 Secs  
 Call Progress Tone Cadence 3 Oscillator 1 Frequency: 0 Hz  
 Call Progress Tone Cadence 3 Oscillator 1 Level: -70 dB  
 Call Progress Tone Cadence 3 Oscillator 2 Frequency: 0 Hz  
 Call Progress Tone Cadence 3 Oscillator 2 Level: -70 dB  
 Call Progress Tone Cadence 3 On Period: 0 Secs

|   |  |          |         |             |    |
|---|--|----------|---------|-------------|----|
| Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL) |  |          |         |             |    |
| <b>Clause 4.8.5, Call attempt on a low voltage line</b>             |  |          |         |             |    |
| ID  | 4313   | Job No   | 1000273 |             |    |
| Customer  | Xingtel Xiamen Electronics Co.,Ltd   |          |         |             |    |
| Product   | XL-2029IDM;TK4060  |          |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |          |         |             |    |
| Purpose Of Test   | To check whether, after seizure, the EUT starts dialling within 8 seconds with a low voltage line.   |          |         |             |    |
|   |  |          |         |             |    |
| EUT Details   | Sample Number: 0001, Modification State: 00  |          |         |             |    |
| Operating State   | Type Of EUT: Loop Disconnect (Pulse) Dialling - Digit n = n pulses (normal coding), Test Condition : Dial Tone: 300Hz, -0.7dBV, Continuous |          |         |             |    |
| Test Class  | Formal Test  | Engineer | Jack    |             |    |
| Date & Time   | Wed<br>09/Dec/2009<br>15:56:03   | Temp( )  | 25      | Humidity(%) | 56 |
|   |  |          |         |             |    |
| <b>Test Details</b>   |  |          |         |             |    |

Call Progress Tone Cadence 3 Off Period: 0 Secs  
 Call Progress Tone Cadence 4 Oscillator 1 Frequency: 0 Hz  
 Call Progress Tone Cadence 4 Oscillator 1 Level: -70 dB  
 Call Progress Tone Cadence 4 Oscillator 2 Frequency: 0 Hz  
 Call Progress Tone Cadence 4 Oscillator 2 Level: -70 dB  
 Call Progress Tone Cadence 4 On Period: 0 Secs  
 Call Progress Tone Cadence 4 Off Period: 0 Secs  
 Call Progress Tone Cadence 5 Oscillator 1 Frequency: 0 Hz  
 Call Progress Tone Cadence 5 Oscillator 1 Level: -70 dB  
 Call Progress Tone Cadence 5 Oscillator 2 Frequency: 0 Hz  
 Call Progress Tone Cadence 5 Oscillator 2 Level: -70 dB  
 Call Progress Tone Cadence 5 On Period: 0 Secs  
 Call Progress Tone Cadence 5 Off Period: 0 Secs  
 Call Progress Tone dB Reference: dBV  
 Generate Call Progress Tone As A Continuous Tone: 0 (0 = Cadenced, 1 = Continuous)  
 Measurement Uncertainty Information  
 Expanded Uncertainty, Coverage Factor K=2  
 Measured EUT Timings: 57.74m Secs  
 Tone Levels Between -48dB and -37dB: 2.75 dB  
 Tone Levels Between -37dB and -10dB: 1 dB  
 Tone Levels Above -10dB: 0.4 dB  
 Tone Frequencies: 0.1155%  
 Tone Cadence Timings: 0.1155%

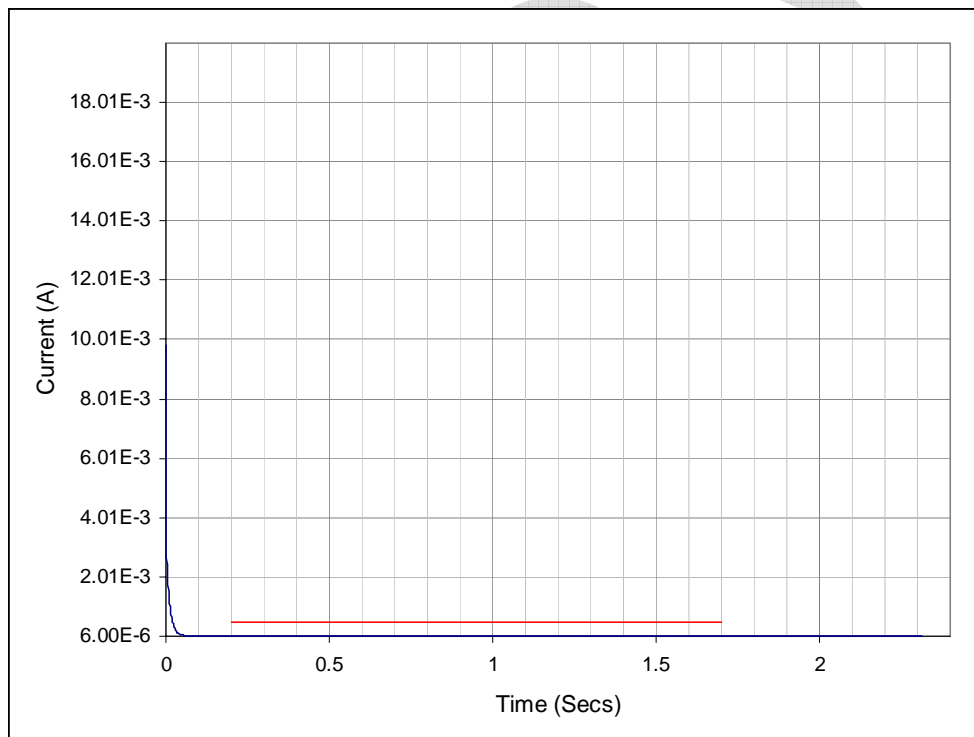


Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.9, Transition From Loop To Quiescent State**

|                 |  |  |         |             |    |
|-----------------|--|--|---------|-------------|----|
| ID              | 4314   | Job No                                     | 1000281 |             |    |
| Customer        | Xingtel Xiamen Electronics Co.,Ltd   |  |         |             |    |
| Product         | XL-2029IDM;TK4060  |  |         |             |    |
| Specification   | ETSI ES 203 021-3 v2.1.2 January 2006  |  |         |             |    |
| Purpose Of Test | To determine whether the TE changes correctly from the loop to the quiescent state |  |         |             |    |
|                 |  |  |         |             |    |
| EUT Details     | Sample Number: 0001, Modification State: 00  |  |         |             |    |
| Operating State | Test Condition 1: Transition From Loop To Quiescent State                          |  |         |             |    |
| Test Class      | Formal Test  | Engineer                                   | Jack    |             |    |
| Date & Time     | Wed<br>09/Dec/2009<br>16:17:00   | Temp( )                                    | 25      | Humidity(%) | 56 |
|                 |  | Tested With Auto Test Run (EUT Master): No |         |             |    |
|                 |  |  |         |             |    |
| Test Result     |  |  |         |             |    |

Overall Test Status: Pass

**Test Condition 1, Transition From Loop To Quiescent State**

Measurement Type: Off Hook To On Hook

DC Feed Voltage: 50 Vdc, Normal Polarity, DC Feed Resistance: 2.05k Ohms

t1 - t0 (Time To Reach First Test Limit Point): 39.36m Secs

Loop Current Exceeded Upper Test Limit Max For A Total Aggregated Period Of 0 Secs

Status Against Upper Test Limits **Pass****Test Condition Status Pass**

Testing Conducted By: Bay Area Compliance Laboratories Corp. (BACL)

**Clause 4.9, Transition From Loop To Quiescent State**

|                        |  |                    |         |
|------------------------|--|--------------------|---------|
| <b>ID</b>              | 4314   | <b>Job No</b>      | 1000273 |
| <b>Customer</b>        | Xingtel Xiamen Electronics Co.,Ltd   |                    |         |
| <b>Product</b>         | XL-2029IDM;TK4060  |                    |         |
| <b>Specification</b>   | ETSI ES 203 021-3 v2.1.2 January 2006  |                    |         |
| <b>Purpose Of Test</b> | To determine whether the TE changes correctly from the loop to the quiescent state |                    |         |
| <b>EUT Details</b>     | Sample Number: 0001, Modification State: 00  |                    |         |
| <b>Operating State</b> | Test Condition 1: Transition From Loop To Quiescent State                          |                    |         |
| <b>Test Class</b>      | Formal Test  | <b>Engineer</b>    | Jack    |
| <b>Date &amp; Time</b> | Wed<br>09/Dec/2009<br>16:17:00   | <b>Temp( )</b>     | 25      |
|                        |  | <b>Humidity(%)</b> | 56      |

**Test Details**

TestCondition 1

Test Description: Transition From Loop To Quiescent State

DC Feed Voltage: 50 Vdc

Feed Resistance: 2.05k Ohms

Feed Polarity Normal Polarity

Type Of Test: Off Hook To On Hook

After Configuring Test Wait 5 Secs Before Starting Test

EUT Must Release Line Within 30 Secs Of A Power Failure

Reference Point For Line Seizure/Line Release 10m A

Reference Point For Line Seizure/Line Release Qualification Time: 20m Secs

Apply Test Limit For EUT Current To Be Within Limit Mask: 0 (0 = Do Not Apply, 1 = Apply)

Qualification Time For EUT Current Being Within Limit Mask: 0 Secs

Maximum (aggregated) Time That EUT Current Is Allowed Outside Mask Limits: 20m Secs

Apply Lower Test Limits: 0 (0 = do not use, 1= use)

Apply Upper Test Limits: 1 (0 = do not use, 1= use)

For Upper Test Limts: , Please see test results

For Lower Test Limts: , Please see test results

Measurement Uncertainty Information

Expanded Uncertainty, Coverage Factor K=2

Measured Current Within 20% Of Lower Test Limits Lowest Limit Point: N/A

Measured Current Within 20% Of Lower Test Limits Highest Limit Point: N/A

Measured Current Within 20% Of Upper Test Limits Lowest Limit Point: 3.713%

Measured Current Within 20% Of Upper Test Limits Highest Limit Point: 3.713%

Measured Timing: 0.105mSecs

## **EXHIBIT A - EUT PHOTOGRAPHS**

**EUT – Top View**



**EUT – Bottom View**



### EUT – Cover off View



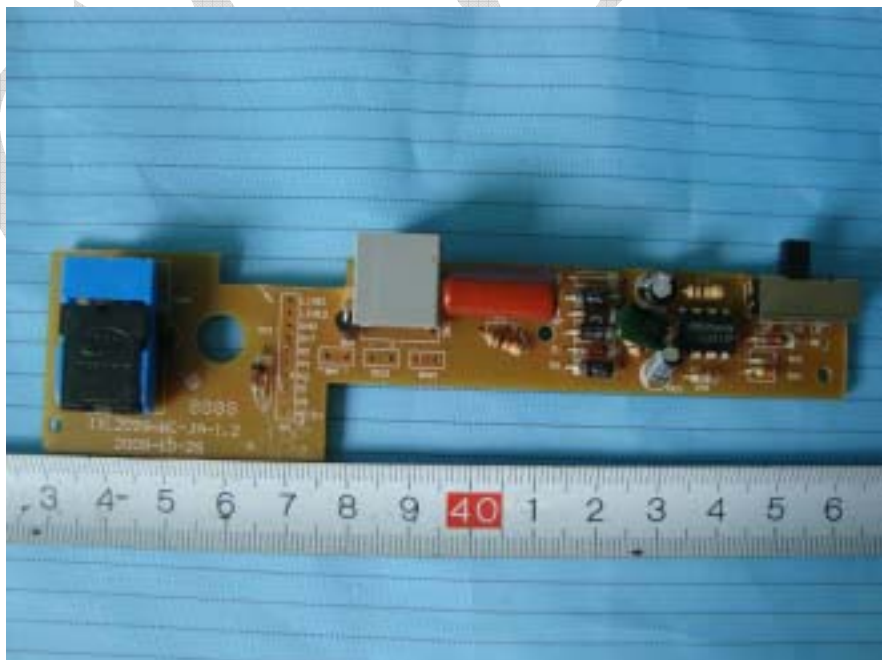
### EUT – Main Board Component View



### EUT – Main Board Circuit View

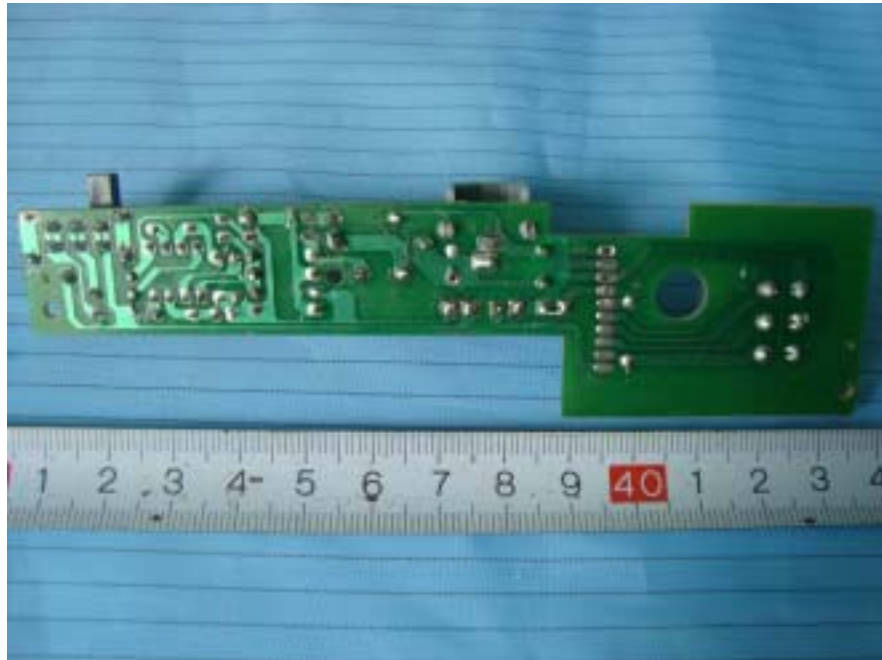


### EUT – Port Board Component View





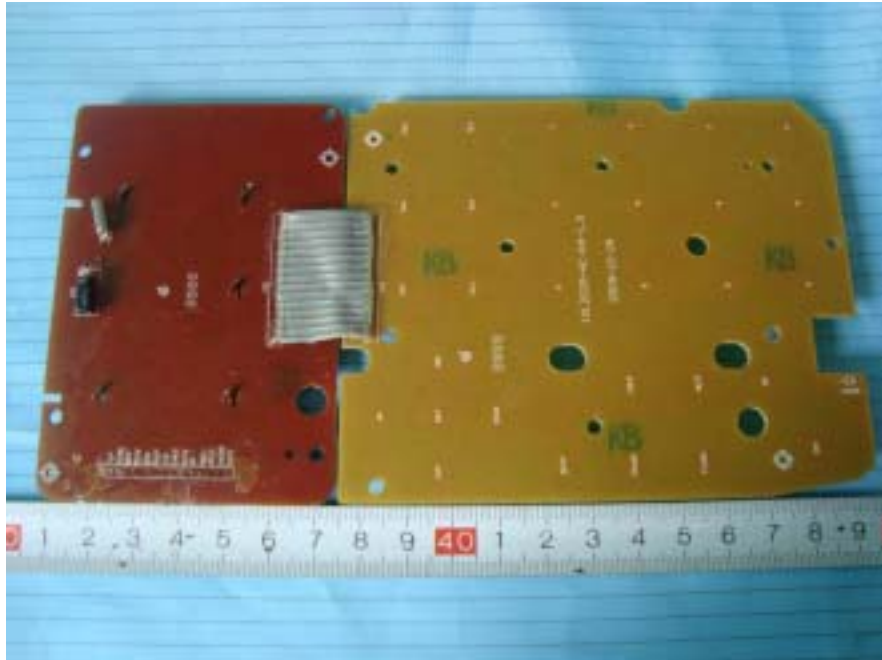
### EUT – Port Board Circuit View



### EUT – Button & Display Board Top View



### EUT – Button & Display Board Bottom View



### EUT – Handset Top View



### EUT – Handset Bottom View



### EUT – Handset Cover off View





## Declaration Letter



Created for Lighthouse  
XINGTEL XIAMEN ELECTRONICS CO., LTD.  
Xingtel Building, Chuangxin Road, Torch Hi-Tech Industrial  
District, Xiamen 361006, P.R. China  
E-mail: info@xingtel.com Website: http://www.xingtel.com

Tel: +86-592-562-5629  
+86-592-503 6442  
Fax: +86-592-503-7990

To: Bay Area Compliance Laboratories Corp

### Declaration of Similarity

To whom it may concern,

We,

Xingtel Xiamen Electronics Co., Ltd.

Address: Xingtel Building, Chuangxin Road, Torch Hi-tech Industrial District, Xiamen, 361006,  
China

Hereby declare that

Product Name: **Corded Phone**

Model No. **TK4060**

belong to **TESANILETISIM A.S.**, with the trade name is **TTEC PLUS**, it is exactly same with the  
telephone model no. XL-2029IDM, and belong to Xingtel. These two models are electrically  
and mechanically identical, The only difference between them is the model name!

Regards,

Xingtel Xiamen Electronics Co., Ltd.

A handwritten signature in black ink, appearing to be "Simon Liu", written over a horizontal line.

Simon Liu

Director

November 13, 2009

## **APPENDIX B - EUT BLOCK DIAGRAM/SCHEMATICS/PARTS LIST**

## APPENDIX C - USERS MANUAL

**\*\*\*\*End of Report\*\*\*\***